RAILWAY AGE

Railway Wages and Railway Employment

Negotiations regarding wages are again under way between committees representing railway managements and the railway labor unions. Their commencement was preceded by the issuance this week of a statement by A. F. Whitney, president of the Railway Labor Executives' Association, in which he quoted the following from a statement made by railway labor leaders a year ago: "Wage reductions are not the appropriate means to restore prosperity. We cannot believe that the public welfare is advanced by reducing the purchasing power of labor." He added: "The appalling downward spiral of the depression since last January has demonstrated we were right . . . As we predicted, a new cycle of wage cutting has followed our action (in agreeing to a reduction of railway wages last January), with further great losses of purchasing power resulting in further declines of business and railway traffic. Now we are observing signs of economic recovery. No measure today could be more harmful to the whole nation than a new drive to begin a new cycle of wage cutting—to bleed white the fading buying power of the people."

Employment and Wage Reductions

It is true that the temporary reduction of railway wages made by agreement almost a year ago was followed by a continuance of the decline of general business and of railway employment. The number of railway employees in January, 1932, was 1,108,691, and in August, 1932, was only 996,317, a decline of 112,374. Before it is concluded, however, that continuance of the decline of general business and of railway traffic and railway employment was due to reductions of wages in general, and of railway wages in particular, it will be well to review some previous history of the depressions of 1921-1922 and of 1930-1932.

On July 1, 1921, a general reduction of 12 per cent was made in railway wages. In the three months before this reduction the average number of railway employees was 1,568,153, and in the three months immediately following it 1,677,710, an increase of 109,557. On July 1, 1922, another reduction of railway wages went into effect, and was immediately followed by a nation-wide strike of shop employees which for two months reduced the total number of railway employees. In the first six months of 1922, however, the average number of railway employees was 1,593,164, while in the last four months of that year it was 1,780,490, or 187,326 greater than in the first six months of the year.

In 1929 the average number of railway employees was 1,686,769. Wages were not reduced in 1930, and the average number of employees declined to 1,510,688, or to 176,081 less than in 1929. In 1931 wages continued to be maintained, and the number of railway employees showed a further decline to 1,278,175, or to 232,513 less than in 1930, and to 408,594 less than in 1929.

The difference between the trends of railway employment in the two periods is very clear cut. In 1921-1922 wages were reduced and the number of railway employees increased. In 1931-1932 wages were maintained and the number of railway employees greatly declined. The general policy of reducing wages because of changed economic conditions was adopted, not only on the railways but in most industries, in 1921-1922, and the depression of that period was short. The general policy of maintaining wages was adopted, not only on the railways but in most major industries, in 1931-1932, and the present depression has been the most profound and one of the longest in history. Certainly there is nothing in these facts to support the view that reduction of wages in a depression tends to reduce, or that maintenance of wages in a depression tends to maintain, employment.

Maintaining Purchasing Power

Emphasis is placed upon the desirability during such periods of maintaining "purchasing power." This, of course, raises a question as to whose purchasing power it is proposed to maintain. A depression is always accompanied by declines of prices and business which automatically reduce the incomes and purchasing power of most persons. If, while the incomes of most persons

are automatically reduced, the wages of some are artificially maintained, the result is to create a disparity in economic conditions which further reduces the already reduced purchasing power of those whose incomes have declined, as compared with the purchasing power of those whose wages are maintained.

Why was the trend of railway employment different following the reductions of railway wages made in 1921-1922 and in 1932? The explanation is to be found in the fact that the decline of general business stopped about the middle of 1921, and that it began to improve in the early part of 1922, while, on the other hand, general business and railway traffic continued to decline from February 1, 1932, when the temporary reduction of railway wages went into effect, until about September 1, last. Was this continued decline of general business in 1932 due to "wage cutting"? If so, why did general business improve and railway traffic increase following the "wage cutting" in 1921 and 1922, and why did general business and railway traffic steadily decline throughout 1930 and 1931 when wages on the railways and in most major industries were being maintained?

The number of railway employees in August, 1932, was 996,317, while in September it was 1,010,442, an increase of 14,125. In other words, in the very first month in the entire depression in which railway traffic and earnings improved there was an increase in railway employment, and it was the first increase in railway employment that had occurred in any month since May, 1931. If reductions of wages in industry in general, and on the railways in particular, helped to cause the decline of general business and of railway traffic and employment throughout the first eight months of 1932, what caused the improvement in general business and the increases in railway traffic and railway employment in September, 1932, when the reduction of railway wages was still in effect and the average wage paid in industry was lower that at any previous time since the present depression began?

Railway Employees Understand Railway Situation

It is only natural that railway labor leaders should oppose reductions of wages, but it is doubtful if in opposing them and in using the arguments against them that they are using they express the views of a large majority of railway employees. In its issue of October 15 the *Railway Age* published a letter from a furloughed fireman advocating a reduction of wages as a necessary means of increasing railway employment and helping to revive general business. A. F. Whitney, in an article in the Railroad Trainman for December, says: "No reasonable man will, for one moment, consider that a letter written by this fireman pleading for a cut in his wages was written in good faith.* * * This letter, the identity of which the *Railway Age* resolutely conceals, appeals to our sense of credulity about as strongly as would a letter from the editor of the *Railway Age* urging a reduction in his own salary."

Regardless of Mr. Whitney's implication to the contrary, the letter quoted in the *Railway Age* of October 15 was voluntarily written by a furloughed railroad fireman in good faith, and, furthermore, long before any reduction was made in railway wages the compensation of every officer and employee of the company that publishes the *Railway Age* was reduced much more than the 10 per cent reduction in railway wages made on February 1, 1931.

Reductions in wages exceeding that made on the railways have been made by almost every industry and business concern in the country, not because the managements desired to make them, or because the employees wanted them, but because business and earnings have declined so much that large reductions in wages have been necessary to avoid general bankruptcy and greatly increased unemployment in industry and business. Most of the railways on which wages have been reduced only 10 per cent this year actually have become bankrupt, and have saved themselves from receiverships only by accepting large loans from the federal government and thereby incurring debts which they must later pay.

Will Employees Face the Facts?

Railway employees are one of the most intelligent large classes of citizens of the United States, and they know the facts about the present railway situation better than they ever knew the facts about any past railway situation. They know more railway men were out of work until recently than ever before, and that the reduction in the railway payroll since 1929 has been caused by a reduction of about 50 per cent in railway traffic and gross earnings. They know that this enormous decline in traffic and gross earnings has been caused by the depression in general business and by the increased competition of subsidized and unregulated carriers by water and highway. They know that great unemployment among railway men would have been caused merely by the decline of railway traffic and earnings, but that railway unemployment has been increased by the maintenance of relatively high wage scales. They know that the railways cannot make rates and give service that will enable them to meet competition as long as there continues to be such great differences between the ways in which the state and national governments treat the railways and other carriers, and between the working conditions and wages of railway employees and those of other carriers, and that as long as the railways cannot effectively meet this competition they will be unable to recover traffic which they are economically entitled to handle and give the employment which the handling of that traffic would enable them to give.

The vital question presented to railway labor leaders and employees is, therefore, whether they will face these facts and accept such reductions of wages as plainly must be made if there is not to be an unnecessary continued curtailment of railway traffic, earnings and employment.

The Railways and the Automotive Industry

The *Railway Age* advocates regulation, higher taxation and limitations of size and weight of over-the-road commercial motor vehicles. It has not advocated and does not advocate the application of increased burdens to private motorists, intracity commercial operations, school buses, and light farm trucks. An attempt to rally any such motor vehicle operators to the side of over-the-road commercial transport, contending that railroad interests are inimical to them, is misleading.

A solution of the railroad problem as regards highway transport would entail some diminution of long-distance commercial motor traffic, but it should redound greatly to the benefit of private motorists and other operators of motor vehicles. The added costs of highways which are built to accommodate heavy vehicles are paid in large part by operators of private automobiles and light trucks and by the general taxpayers.

A student of this question in Pennsylvania has recently estimated that highways satisfactory for private automobiles and light farm trucks can be built for $15,000 a mile, whereas those necessary for the operation of heavy vehicles cost from $25,000 to $28,000 a mile. Current highway expenditures in the United States are approximately $2,000,000,000, of which, roughly, half is paid by special taxation of motor vehicles. It would appear, therefore, that the general taxpayers' contribution could be virtually eliminated, without curtailment in the highway program, if construction were limited to roads suited only to the lighter vehicles. If it is necessary to spend an additional billion dollars annually in order to make possible and economical the operation of heavy commercial vehicles, then it is the operators of such vehicles, rather than the general taxpayers, including the private motorists, who ought to pay it.

The gasoline tax, as the *Railway Age* has frequently pointed out, weighs much more heavily on the private motorist and the operator of the light truck than it does upon the operator of the heavier vehicle. The light automobile, weighing a ton, will make about twenty miles on a gallon of gasoline, whereas the heavy truck, weighing with load ten tons, will make about four miles per gallon of gasoline. Whether the tax is two or five or even seven cents a gallon, it is perfectly clear that the operator of the heavy vehicle is getting twice as much use of the highway for every cent he pays in gasoline taxes as is the private motorist. This inequity could be corrected by higher license fees and ton-mile taxes levied at progressively higher rates on heavy vehicles.

The enormous size of some of the vehicles now moving on the highways is a growing menace to the safety and comfort of private motorists. If this condition is permitted to continue uncorrected, the automotive industry may find its pleasure car trade largely curtailed—as a matter of fact, there is considerable evidence to support the belief that curtailment of pleasure car use from this condition has already reached considerable proportions. Is reasonable restriction of the size of commercial motor vehicles on the rural highways, which the *Railway Age* favors, in any sense unfriendly to the major part of the automotive industry—that which is concerned with the private automobile and the light commercial vehicle?

Nor does our policy conflict with the interests of operators of intracity buses and trucks and farm vehicles. Certainly no program aiming at the regulation and adequate taxation of over-the-road commercial transport could affect them in any way other than to remove unjust burdens from them which they now bear.

It is also evident to any observer that the market for pleasure automobiles depends largely on general

Railway Age Policy Consistently Favorable to Most Highway Users

The Kansas Legislature at its recent session enacted legislation for the regulation of commercial motor vehicles which displays a fine understanding of the fundamentals of the matter at issue. In the classification of vehicles made subject to special taxation and regulation and the specific exemption of private automobiles, local bus and truck operations and farmers' trucks from further burdens, the legislation is excellent.

The Kansas legislation is aimed solely at the operators who use the rural highways as a place of conducting business for a profit. It will require operators of such vehicles to pay more adequately for the public property they use for private gain. At the same time it clearly exempts private motorists and local freight and passenger carriers from additional burdens and definitely encourages truck ownership by farmers.

This legislation removes a burden from local commercial operators who have heretofore been paying equally with long-distance operators for facilities which they do not use and from private motorists who have been paying taxes disproportionate on a road-use basis to those paid by bus and truck lines. It is an effective and final answer to the misleading propaganda with which the country is being flooded: that advocates of fairer regulation and taxation of motor vehicles are endeavoring to curtail private motoring, farm trucking and local highway transport.

The above quotation, typical of Railway Age policy over a long period, is taken from an editorial published in the issue of April 18, 1931.

business conditions. If people do not have spare cash they cannot afford to buy new cars. But is it reasonable to expect any general prosperity in this country without a reasonable amount of railway prosperity? With the jobs of so many millions of persons dependent upon healthy conditions on the railroads, and with a considerable proportion of the savings of thrifty Americans invested, directly or indirectly, in railroad securities, is there any likelihood of a substantial pickup in the market for private automobiles as long as the railroad industry, with all of its ramifications and connections, is deliberately kept in an artificially depressed condition by the operations of subsidized competititors?

Railroad employees themselves have, in times past, being well-paid workers, purchased large numbers of automobiles for their own use. By contrast, how many automobiles does the automotive industry think it can sell to truck drivers who work 18 hours a day "for board and lodging wages," as set forth in one of the articles in our December 3 issue? For every second-hand truck operated under such conditions, the automotive industry is probably losing the sale of new automobiles to several furloughed railroad employees and those of allied industries who otherwise might have purchased them.

Also, to the extent which a correction of the inequities surrounding the railroads would permit them to re-enter into prosperity, carrying allied industries along with them, urban business would improve and the market for urban trucks and buses would increase. The same holds true of farm vehicles.

Neither the railways nor the *Railway Age* have any quarrel with the great automotive industry in by far the most important part of its activities. One may well doubt whether the concentration of the attention of that industry on that part of its business which is competitive with the railways, to the neglect of that part—private automobiles, urban and farm transportation—which has been its bread and butter in the past, in the long run can work otherwise than to its detriment, and to that of allied industries such as rubber and petroleum.

Keeping Them Alive

The railways owe much to the various voluntary associations within their field. By providing opportunity for co-operative study of common problems and especially for the exchange of experiences, these organizations have done much to improve practices and to standardize methods. Owing to these organizations progress has been more rapid and more universal than would otherwise have been the case.

Yet many of these organizations are in trouble today. Aside from those associations which have become sections of the American Railway Association, the organizations are maintained by dues paid by their individual members. In most cases these dues are only sufficient to finance the activities from year to year, with little opportunity for building up a surplus. Not a few of the members have suffered demotions in recent months, with corresponding reductions in salary, incident to the widespread consolidation of positions. Even more serious has been the decline in interest resulting from the postponement of conventions and the decrease in committee activities. These conditions have resulted in many members failing to pay their dues, reducing association income so as to make it difficult to continue activities sufficient to maintain interest.

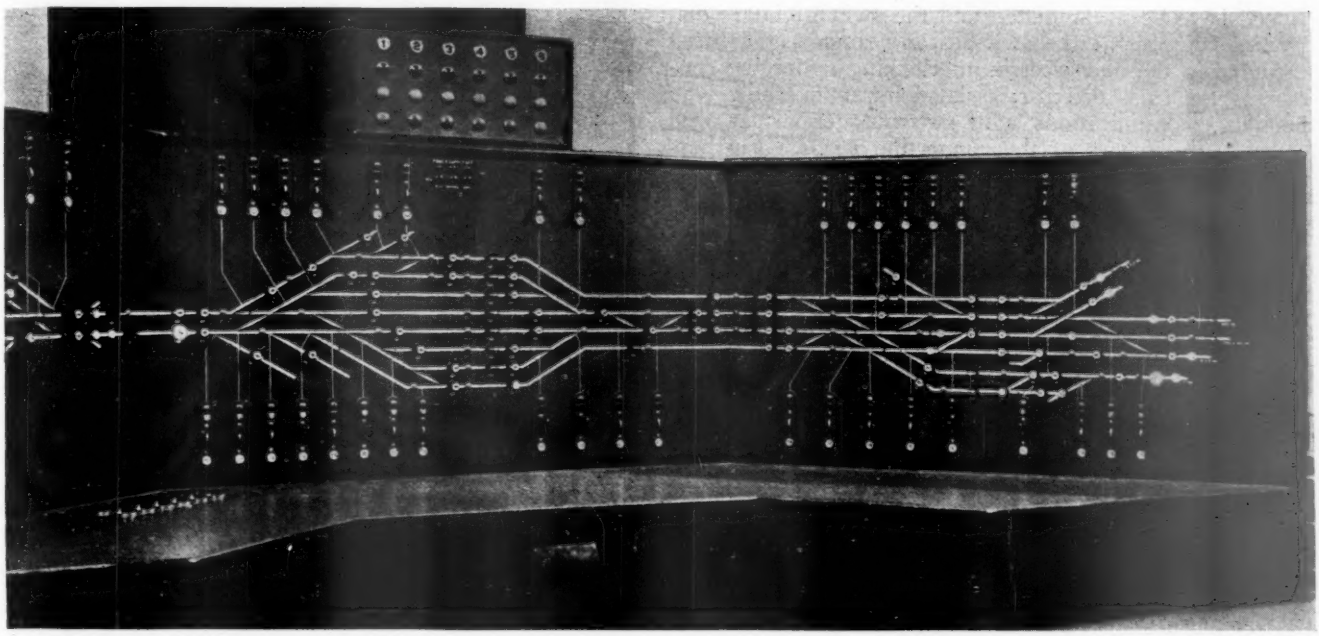
Such a condition is not without concern to the railways, for if these associations disintegrate, a community of interest founded on as much as a half century of association traditions will be lost, and years will be required to bring new organizations up to the existing standards of service. The railways, through some such agency as the American Railway Association, can well afford to ascertain the status of these various voluntary associations, preliminary to extending to them such limited assistance as may be necessary to enable them to continue to function until conditions again return to normal. They contribute much to railway progress. It is to the interest of the roads that they should not be allowed to disintegrate.

Things to Do Now

Early this year the Missouri Pacific spent $5,100 for the installation of a remotely-controlled power switch and signals to replace a mechanical interlocking at an end of double track, which will reduce operating expenses $5,000 a year. The Alton installed an automatic interlocking last summer to replace a mechanical plant at a crossing, at a cost of $8,000, which will save $6,000 a year. The Louisville & Nashville installed A.R.A. standard flashing-light crossing signals in place of gates at six street crossings in an Illinois city at a cost of $8,990, and effected an annual saving in operating expenses of $10,954 in addition to affording protection for the full 24-hr. period, whereas the gates were in operation only 18 hr. daily. The Big Four is saving $6,000 a year through the use of two remotely-controlled manual block signals at one station. In replacing a 26-lever electro-mechanical interlocking which had been destroyed by fire, the Pennsylvania installed a remotely-controlled C.T.C. type of electric interlocking which effected an annual saving of $5,203 on an investment of $7,539 over and above the estimated cost of rebuilding the facilities destroyed.

These expenditures illustrate a type of improvement which some railways are continuing to make in these days and which are yielding returns of as high as 50 to 100 per cent on the investment. Such savings are independent of the number of trains and the returns will continue year after year. Furthermore, these expenditures are comparatively small. Several roads have organized to take advantage of all such opportunities on their lines. Similar opportunities exist on numerous other railways.

Simplified Interlocking Installed at Dayton Union Terminal



The Centralized Control Machine Is Operated by the Train Director

Centralized system with one control machine handles terminal layout formerly operated by five interlockings and numerous switch tenders

AN INTERLOCKING installed recently as a part of a major improvement of the Dayton Union Railway is of special interest not only because all train movements throughout the terminal area and junctions of the several roads are now controlled from the one point, but also because the latest type of C. T. C. control machine is used in connection with interlocking between circuits, thus eliminating the use of mechanical locking. The installation of the interlocking was part of an improvement program involving the elevation of the tracks for a distance of about one and one-half miles through the business district of Dayton, as described in detail in an article in the *Railway Age* for October 1, page 467.

The track layout through Dayton is unusual in that through traffic, both freight and passenger, of the several roads converges into one route through the business center of the city. Approaching Dayton from the east, the Pennsylvania and the Baltimore & Ohio have double-track lines, while the Erie and the Big Four have single-track lines which are used jointly as double track; and the Baltimore & Ohio also has another single-track line. All of these lines converge near Third street into a four-track line which extends to the east end of the station layout at South Main street where the two inside tracks develop into a six-track station layout served by platforms for passenger trains. The outside tracks, one on each side, are used ordinarily for through-freight movements, although any of the station tracks can be used for through movements in either direction. A double-track line extends west from the west end of the station layout from which two tracks of the Pennsylvania and two tracks of the Big Four diverge at Miami City Junction, while a two-track line of the Baltimore & Ohio continues westward. In addition to the three roads mentioned, which own the Dayton Union Railway jointly, the station facilities are used by the Erie and the Dayton & Union. The traffic handled through this terminal daily normally consists of 58 passenger trains, about 85 through-freight trains and heavy transfer cuts, and about 100 switching trains. In addition, switching movements are being made constantly in and out of the yards and industries in this territory.

Previous Operation Complicated

Under the previous operating arrangement, one train director, five operator-levermen, one operator and four switch tenders were on duty each trick, whereas now one train director and one operator handle the entire layout on each trick. One 37-lever mechanical interlocking was in service at the junction of the Baltimore & Ohio, Big Four, and Erie lines near East Second street; another plant of the same type with 8 levers was located at the Pennsylvania junction near Wayne avenue; a third mechanical plant with 8 levers was located at the east end of the station layout near Jefferson street; a

fourth plant with 36 levers was located at Miami City Junction, and a fifth plant controlled the end of double track at Wolf Creek, two miles out on the Pennsylvania.

In addition to the interlockings, one switch tender was employed each trick at (1) the east end of the station tracks, (2) the switches leading to the Perry Street yard, (3) the switches and crossovers near Longworth street, and (4) the switches near the east end of the Miami River bridge. The five interlockings mentioned have been eliminated and the switch tenders dispensed with, all of the switches and signals now being included in the new electric interlocking under the control of the train director, assisted by an operator who handles communications with switching crews, as well as with dispatchers of the connecting roads. Furthermore, the new system also extends out to Wolf Creek, where the end of double track was formerly under the control of an operator in a block office at that point, and east one mile to the east end of double track near Dutoit street, where another operator was on duty each trick. Therefore, in addition to the operators, levermen and switchmen relieved on the Dayton Union Railway, these six men on the Pennsylvania were displaced by the new interlocking system, a total of 39 men formerly as compared with 6 at present.

Train Operation Decidedly Improved

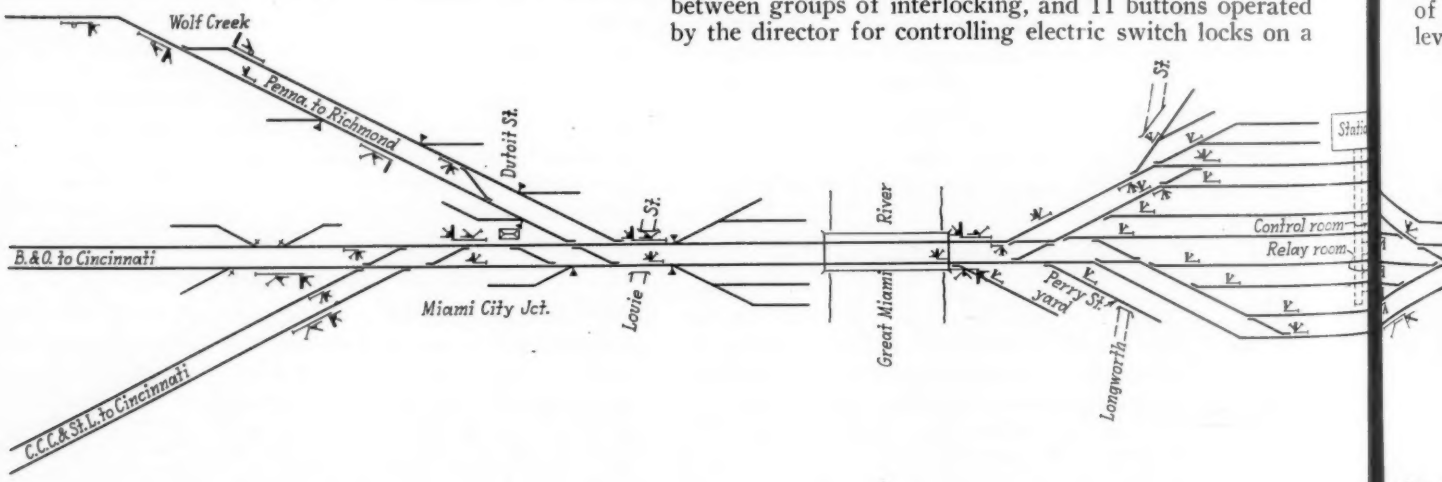
Under the previous system of operation, the train director made arrangements for the movement of trains by telephone, directing the various levermen and switch tenders at the different locations to line up the routes desired. Standard rules were in effect for operation on the double track, which required the use of written train orders for a move against the normal direction of traffic. Ordinarily passenger trains were handled without much delay, but frequently freight trains and switching cuts were seriously delayed because the line-up could not be changed immediately to take advantage of changed circumstances.

In contrast with this condition, the train director now has direct control of the entire area. As trains are now run by signal indication in either direction on any track, the train director can choose routes for run-around moves in such a way as to utilize every available facility to keep trains moving. Regular switching movements in the station to pick up or set out passenger cars are now made without delay, the signals directing the moves without occasion for communication with the switching crews. Irregular movements are made after such information is communicated by telephone.

Dwarf Signals Were Used in the Station Area

The control machine is located in the train director's room on the station concourse level beneath the elevated track structure, so that the director cannot see the track layout, but he is informed as to the exact location of all trains on the main tracks of the Dayton Union Railway as well as on the various lines approaching, by means of the illuminated diagram on the machine. This machine is of the same general appearance as those used in centralized traffic control systems and is somewhat similar to the machine installed by the Big Four in an interlocking at Linndale, Ohio, in 1930. However, the type and location of the levers and the indication lamps are improvements over any machine previously installed, the machine and control circuits representing the latest developments in this field. The control board consists of three panels, in front of which the director sits. In order that all levers may be within easy reach, the two end panels are set at 45 deg. with the central panel, forming the chords of a circle. Each panel is 23 in. high and 40 in. long.

The plant includes 22 crossovers and 25 single switches, each cross-over being controlled by one lever, the same as a single switch, making a total of 47 switch levers. The machine includes 21 traffic-direction buttons which provide the equivalent of check locking between groups of interlocking, and 11 buttons operated by the director for controlling electric switch locks on a



Track and Signal Plan of the Dayton Union Termin

number of hand-throw switches leading to industry tracks. Each signal button or knob is located on the control board in a position corresponding to that of the signal on the ground, and its normal position is marked by a white dot; the desired indication is displayed by the knob being rotated one-quarter turn to bring this dot to the top when displaying the high or semi-automatic indication, or turned down to display a low-speed or call-on indication. A frosted glass in the center of each knob has a black arrow indicating the direction for which the signal is displayed, this arrow being illuminated when the signal is indicating proceed.

Each switch or crossover is operated by a small lever located on the control board, either above or below the track diagram, a line extending from the lever to the diagram showing which switch is controlled. The lever operates to two positions, in a vertical direction down for the switch normal and up for reverse. Two small lamps are located just above each switch lever. The top one, which is yellow, is lighted when a switch is not in correspondence with the lever and is extinguished only when the switch movement is fully completed and is back into correspondence. The lower one of the two lamps is red and is lighted when conditions are such that no action would result from the operation of the lever. This lamp, known as the "hands-off" light, informs the director either that he has a signal cleared over that route, thus locking the switch in its present position, or that there is a train occupying the track, which likewise locks the switch. Therefore, nothing would be accomplished by operating the lever. Moreover, the "hands-off" light is lighted and the switch is locked when the signal lever for that route is operated, thus giving the effect of mechanical locking. If the switch lever is moved when the switch is locked (red light is lighted) the correspondence light also lights, and both lights remain lighted even though the condition which originally lighted the red light is corrected. In other words, the only way to produce operation of a switch is to move the lever from the position of correspondence when the red light is not lighted.

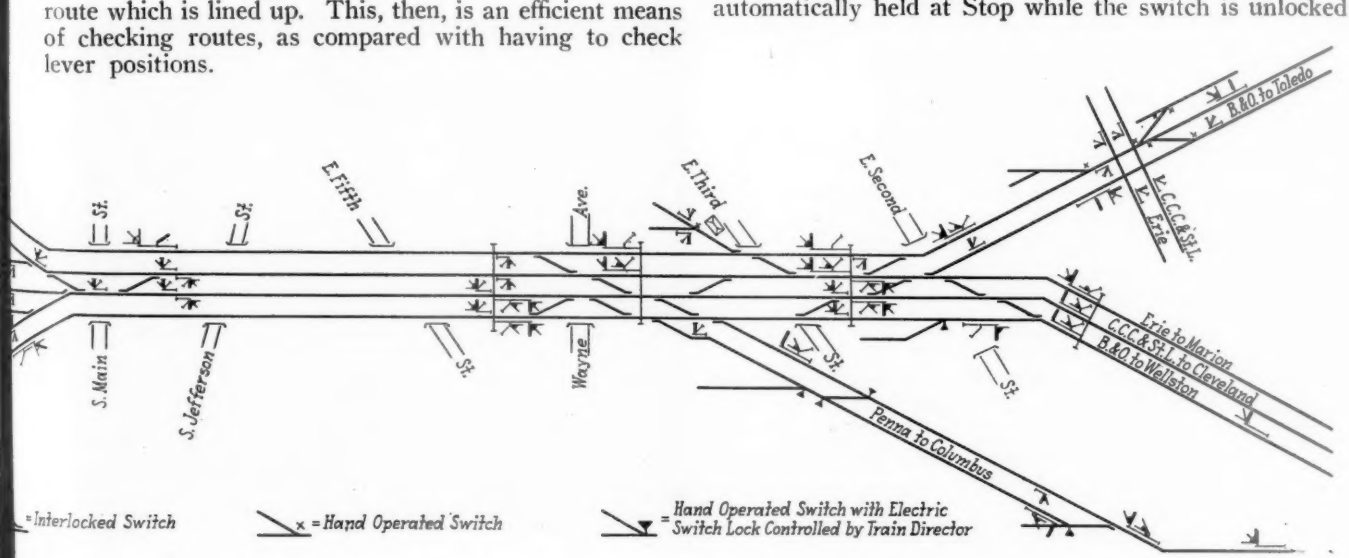
Movable switch points are provided in the track diagram, these miniature points being moved by magnets which are so controlled from the switch-repeating relay that after the track switch is over and locked, the point on the diagram moves to the corresponding position, the result being that the train director can glance down the track line on the diagram and follow through the entire route which is lined up. This, then, is an efficient means of checking routes, as compared with having to check lever positions.

An important feature of this plant is the absence of mechanical locking between the levers, as ordinarily used in interlocking. The director is free to move any lever, at any time, incorrect operation being prevented by the interconnections of the control circuits. For example, if the director lines up a switch and clears a signal for the route over the switch, he may again operate the switch lever, but the switch will not operate until he has replaced the signal lever to normal and again moved the lever, thus changing the indication to Stop and enforcing the delay of a time-locking period before the switch can be moved. One of the advantages of eliminating mechanical locking is that levers can be operated quickly without waiting for indications and without being confined to certain sequence in the operation of the levers, all of which facilitates the changing of line-ups, thus preventing train delays.

As mentioned previously, trains can be operated in either direction on any track, the direction of operation to be used being fixed by a traffic-locking arrangement controlled by the position of a traffic-locking button mounted in each of the major track sections. A white arrow on the face of the black button points in the direction of the traffic set-up, the button being turned in one direction or the other, as desired, to set up the desired direction of traffic.

Electric Locks on Hand-Throw Switches

Within the interlocking limits are 26 hand-throw switches in turnouts leading from the main tracks to industry tracks, and all of these switches are protected by electric locks under the control of the train director. The electric switch locks for all switches located between a set of opposing signals are controlled by a single button on the control machine, this button being located in a position on the diagram corresponding to the territory in which the switches are located. These electric lock buttons are similar to the signal buttons, but are red instead of black, and display the letter "L" instead of an arrow. When the conductor of a switching crew telephones the director, asking permission to use a certain switch, the director turns the button, unlocking the electric switch lock. When the switchman unlocks the switch, the lamp is lighted in the director's control button, and stays lighted until the switch is returned to the normal position and locked, after which the director restores the button to the normal position, again locking the switch. All signals governing the section of track involved are automatically held at Stop while the switch is unlocked.



Extensive Area Controlled by One Interlocking

For the starting of trains, a small case with six sets of three lamps each is mounted on top of the control machine, while the push-buttons for the operation of this system are countersunk in the top of the director's desk. Corresponding units of this train-starting system are located at the gates in the station concourse, and on certain columns on the train-shed platforms. One minute before a train is ready to depart, the conductor pushes a button on the platform unit, which lights a red light on the director's desk for the corresponding track. The director, if ready for the train to depart, pushes the corresponding button, thereby lighting his own yellow light and a yellow light at the gate, thus directing the gateman to close the gate for passengers. When all the passengers are through, the gateman pushes a button which lights green lights on his gate unit, on the director's unit, and on the conductor's unit. The director then clears the signal for the train to depart and after it passes the signal he pushes a button which returns the entire train-starting system to normal.

Outside Equipment

The switches are operated by 110-volt d-c. General Railway Signal Model-5C switch machines. The signals are the position-light type, high signals being used on bridges or masts for the approaches and at the principal junction points, while dwarf signals are used throughout the station area.

A unique feature of this installation is that no relay boxes or battery housings are located along the tracks, as is customary at such plants. All such apparatus is located in rooms or special buildings provided for this purpose. At the control point the relays, batteries, and charging equipment are housed in a room adjacent to the control room. All of the apparatus of this class for the east end of the interlocking is housed in a new brick building located on the north side of the tracks near East Third street. A similar building is located near the former location of the old Miami City Junction tower for housing the equipment required for the west end of the interlocking.

This concentration of field relay and battery apparatus in three locations has several advantages. In the first place, the right-of-way is free from instrument cases, thus improving the appearance. Second, the testing of equipment and the locating of trouble is facilitated. Third the maintainer is not subject to so much hazard in crossing tracks from point to point. Finally the apparatus is protected much better against dust, dampness, and changes of temperature.

The Control Circuits

The control circuits represent the latest developments in the field of interlocking. Safety was the first consideration, every effort being made to insure proper co-ordination of functions, not only in connection with regular operation, but also for unusual occurrences. Another outstanding feature of the installation has to do with the circuits employed for the remote control and indication of the outlying functions, with a minimum number of wires. This problem was made easier by the fact that the means for co-ordinating the functions is at the sub-tower instead of at the control point, as has usually been the case in the past. Thus the controls from the control machine do not involve safety and the indications are for information only and are not needed for checking purposes.

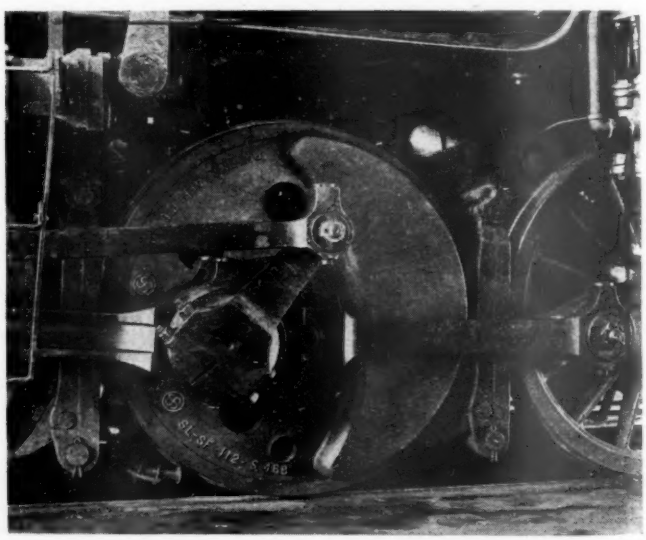
Two wires with a common return are employed between the control machine and the sub-tower to control and indicate a switch or crossover. One of these wires controls the switch and sends in an indication when the electric locking will not permit the switch to respond to the lever. The other wire indicates whether the switch is in one position or the other, or if it is in midstroke. The combined usage of the two wires indicates the occupancy of any one track circuit in which the switch or crossover is located.

One wire with a common return is used to control each signal, one polarity giving a high or medium-speed signal and the other polarity giving a low-speed or call-on signal. One wire is sometimes used to indicate a single signal, but oftentimes to indicate several conflicting signals. The purpose of the signal indication is to afford a means whereby the train director can check his own work to determine that he has set up a complete route and that the signal is clear, thus avoiding a train delay in case he overlooks some requirement.

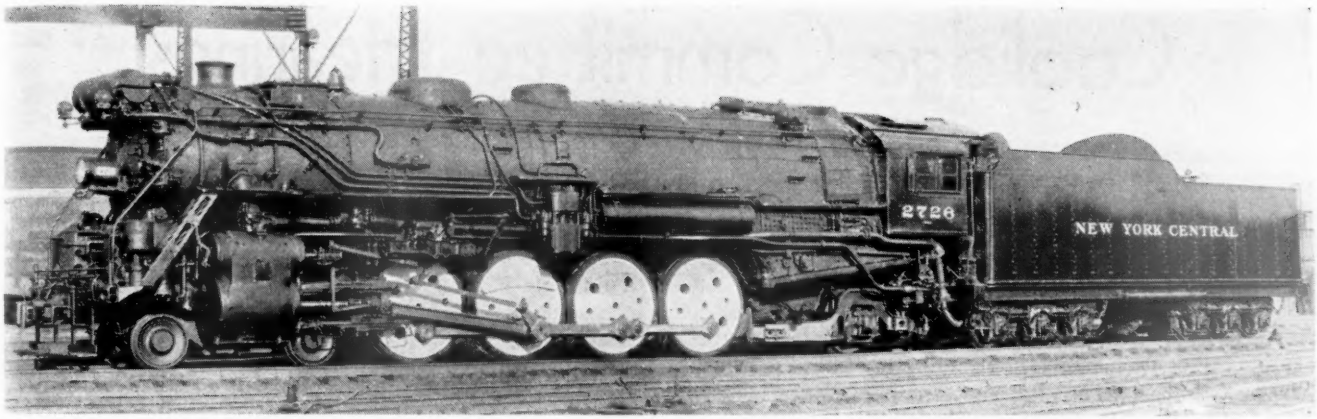
This interlocking plant is being operated and maintained under the jurisdiction of F. E. Jones, superintendent of the Dayton Union Railway Company. The interlocking equipment was furnished and installed by the General Railway Signal Company under the direction of J. D. Moffat, chief engineer of the Dayton Union Railway Company, with C. F. Stoltz, signal engineer of the Big Four, acting as consulting signal engineer.

Double-Disc Driving Wheel

A NEW locomotive driving wheel, made of cast steel and comprising, essentially, a double-disc construction, instead of the conventional spoke design, has been developed by the Scullin Steel Company and tested during the past 13 months on a number of roads, including the St. Louis-San Francisco, the Missouri Pacific and the Denver & Salt Lake. It is also in use on the New York Central. In general, as a result of these tests, the practicability of the new design has been demonstrated. Advantages claimed for it include a saving of about 10 per cent in weight and an increase of 50 per cent in strength in a lateral direction over the conventional locomotive driving-wheel design. In addition, the new design permits readily counterbalancing much more than the usual weight of reciprocating parts, a feature which is often a limiting factor in locomotive design.



Test Installation of Scullin Double-Disc Cast Steel Main Locomotive Driving Wheel



A New York Central Freight Locomotive Completely Equipped with Double-Disc Driving-Wheel Centers

The double-disc driving wheel is a radical departure from the conventional spoke design, both from the manufacturing and mechanical standpoints. The wheel is made of practically a uniform section of metal throughout, with the exception of an increase in the thickness in the metal surrounding the axle and crank pin. However, the crank pin and main hubs are both lighter in section than the conventional spoke design. The discs are continuous from the rim to the hubs. From the foundry standpoint the design is superior to the spoke wheel, being less affected by shrinkage strains. The continuous discs enable the wheel to resist the stresses due to shrinking on of tires and prevent warping. The study of many actual tests indicate that, when tires are shrunk on, the warping of wheel rims is less than $\frac{1}{10}$ that of the spoke design. The discs continuously support the rim and prevent flat spots, necessitating shimming.

The rim of the double-disc wheel is of a relatively light cross section, due to the reinforcing action of the discs, which also are lighter than the spokes. This fact permits counterbalancing large wheels with a relatively small amount of counterbalance material. Moreover, on small wheels, where the weights to be balanced are exceptionally heavy, it is possible to balance a weight which could not be properly balanced with the spoke design. In extreme cases, the use of the double-disc wheel makes it possible to reduce the unbalanced portion at least 50 per cent.

On the New York Central a 4-8-2 freight locomotive has been equipped with a complete set of the double-disc driving wheels. The eight wheels for this locomotive, with the standard spoke design, weighed 22,400 lb. The double-disc wheel centers, after the counterbalancing cavities had been filled with lead, weighed 20,406 lb., a net saving of about 2,000 lb. in favor of the double-disc type. In applying the new wheels advantage was taken of the opportunity to cross-balance the locomotive and the weight named for the double-disc wheels includes 866 lb. of lead which was the necessary addition for cross-counterbalancing. The double-disc wheel center castings alone weigh 14,890 lb. for this locomotive.

RAILWAYS IN UGANDA (British East Africa) will be protected from motor competition by the passage of the "Carriage of Goods by Motor (Control) Ordinance, 1932," effective September 15, 1932, according to a statement issued by the Department of Commerce. This ordinance permits authorities to prohibit motor truck traffic between points adequately served by railways. Licenses are granted only on personal application, and decisions rest entirely with the government.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended December 3 totaled 547,461 cars, an increase of 53,579 cars as compared with the week before, which included the Thanksgiving Day holiday. This was a decrease of 88,905 cars as compared with the corresponding week of last year and of 239,611 cars as compared with 1930. All classes of commodities showed increases as compared with the week before and decreases as compared with the preceding years. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

Revenue Freight Car Loading

Week Ended Saturday, December 3, 1932

Districts	1932	1931	1930
Eastern	126,278	144,168	176,235
Allegheny	101,792	125,742	151,471
Pocahontas	37,212	37,715	48,111
Southern	82,936	93,967	121,475
Northwestern	61,996	78,337	95,608
Central Western	84,439	102,606	127,060
Southwestern	52,808	53,831	67,112
Total Western Districts	199,243	234,774	289,780
Total All Roads	547,461	636,366	787,072
Commodities			
Grain and Grain Products	31,680	32,659	40,095
Live Stock	20,151	27,276	27,610
Coal	121,047	130,107	175,970
Coke	5,370	6,488	9,524
Forest Products	16,662	20,302	34,977
Ore	1,511	3,406	6,063
Mdse. L. C. L.	169,065	202,573	223,047
Miscellaneous	181,975	213,555	269,786
December 3	547,461	636,366	787,072
November 26	493,882	558,798	701,050
November 19	575,851	653,503	779,752
November 12	537,093	689,960	829,023
November 5	588,383	717,048	881,517
Cumulative total, 48 weeks	26,255,457	35,012,832	43,107,709

Car Loading in Canada

Car loadings in Canada for the week ended December 3 amounted to 42,267 cars. Although this was a decrease from the previous week of 1,007 cars, it was slightly less than the usual seasonal decrease and the index number rose from 59.24 to 59.64.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
December 3, 1932	42,267	17,984
November 26, 1932	43,274	17,250
November 19, 1932	45,950	17,594
November 28, 1931	52,483	20,163
Cumulative Totals for Canada		
December 3, 1932	2,041,755	906,381
November 28, 1931	2,406,189	1,199,635
November 29, 1930	2,959,597	1,588,914

Coolidge Committee Hearings

Investigating body headed by former President receives presentations from 18 organizations, including A. R. E. and R. B. A.

THE National Transportation Committee, of which former President Calvin Coolidge is chairman, completed in New York on December 9 its first series of hearings at which presentations were made by representatives of 18 organizations including the Association of Railway Executives, the Western Association of Railway Executives, the American Short Line Railroad Association and the Railway Business Association.

Presentations made on behalf of the Lake Carriers' Association, the National Association of Mutual Savings Banks, the Security Owners' Association, the National Automobile Chamber of Commerce and the National Aeronautic Association were reported in the *Railway Age* of December 10.

The Railway Labor Executives' Association, on December 8, as reported in last week's issue, rejected the committee's invitation to appear. On the morning of December 9, however, Chairman Coolidge issued on behalf of the committee the following statement:

"We have been informed that the railroad labor representatives are now engaged in conference at Chicago and probably cannot arrange to appear before the National Transportation Committee at this period but the Committee understands they have under consideration appearing at a date later to be determined."

During the afternoon session of the same day Mr. Coolidge handed to representatives of the press a pe' ciled memorandum which read: "I had a telephone from Mr. Whitney (R. R. Labor) and they will consider filing a statement and possible appearance later. He desires to give the National Transportation Committee all the help he can in behalf of his organization."

Railway Executives Disagree

Meanwhile railway presidents, participating in the Association of Railway Executives' presentation, were revealed to be in sharp disagreement on the advisability of the committee's considering railway wages. Daniel Willard, president of the Baltimore & Ohio, did not think the subject, which was discussed in the A. R. E. brief, was within the purview of the committee but W. R. Co' president of the Louisville & Nashville, disagreed and his stand in this connection was supported by General W. W. Atterbury, president of the Pennsylvania. On another question arising later Mr. Cole and Mr. Atterbury were on opposite sides as the former again insisted upon strict adherence to the brief's recommendation—this time on the proposal that the committee recommend the regulation of highway carriers. General Atterbury had suggested that the committee withhold its judgment on that question until it received the report of the Joint Railway-Highway Users Committee of which he is a member and chairman of the railway group.

Generally speaking representatives of the railways were subjected to more questioning from individual members of the committee, i.e., impromptu questions in addition to those which had been prepared by the committee's staff and submitted by Chairman Coolidge to each group appearing. The most active committee members in this questioning were former Governor Alfred E. Smith of New York and Alexander Legge, president of the International Harvester Company; Clark Howell, publisher of the Atlanta Constitution, entered the discussion only occasionally while Mr. Coolidge, for the most part, refrained from interrogating those appearing. Bernard M. Baruch, vice-chairman of the committee, was unable to attend the hearings because of a foot ailment and he was represented by Hugh Johnston.

The legislative program proposed by the Association of Railway Executives, together with a summary of other material submitted in briefs, and the opening statement of Alfred P. Thom, general counsel of the association, were published in the *Railway Age* of December 10, page 859. The oral presentation of the A. R. E. was made on December 8 when there was also submitted by Bruce E. Dwinell, general attorney of the Chicago, Rock Island & Pacific, on behalf of the Western Association of Railway Executives, a statement entitled "The Western Railroads and Inland Waterways."

Mr. Thom called first upon R. H. Aishton, president of the American Railway Association and chairman of the Advisory Committee, Association of Railway Executives. Mr. Aishton, remarking that, while he did not subscribe to much of it, "a good deal has been said about competitive wastes," reminded the committee that the whole basis of federal regulatory legislation is the determination to keep the railroads competitive. To show that the railroads are engaged in determined efforts to eliminate such competitive wastes as do exist he called upon General Atterbury who explained the work of the economy committee recently established in the East.

Railway Economies Benefit Shippers and Labor

Responding, General Atterbury said that there has been created, as supplementary to that body, a committee of operating vice-presidents and another composed of traffic vice-presidents. Among the subjects upon which the committee has been working he listed: Collection and delivery of freight; joint inspection of perishables in the interests of uniformity; joint use of perishable terminals; lighterage practices at New York; competitive freight and passenger service; costs of dining car service; questions relating to changes in equipment design; the free use of railroad piers; and economies in purchasing.

The western roads, Mr. Aishton pointed out, have created similar machinery for effecting economies in the appointment of Harry Guy Taylor as commissioner. L. W. Baldwin, president of the Missouri Pacific, spoke briefly on the scope of Mr. Taylor's work and then continued to show the fallacy of the "general view" that numerous passenger trains between two terminals always constitute duplicate services. Such a view, he said, overlooks the intermediate territory.

Motor Truck Regulation

J. J. Pelley, president of the New York, New Haven & Hartford, spoke at this point to "clear up a statement by Col. Thom that we're not asking for regulation of private trucks." He called attention to that section of the A. R. E. legislative proposals headed "Other Com-

mercial Carriers" which suggests specific measures to control private as well as contract operators on the highway. Mr. Pelley conceded the difficulties involved in defining the private truck for regulatory purposes but he nevertheless stressed the need for some form of effective control. He continued to tell how private truckers are roving about and buying commodities which they haul to distant markets for sale. "The trucker is becoming the produce man, the oil man and the coal man," he added.

Specifically, Mr. Pelley suggested that private trucks operating only in the role of delivery wagons within city limits be exempted from any regulatory plan. But Mr. Smith did not think such a law would stand, at least in New York where, in his opinion, it would be impossible to make one rule for a trucker who goes out of a city and another for one who operates only intra-city. While admitting the point raised by Mr. Smith to be a pertinent one Mr. Pelley thought the problem could be solved. if not through regulatory laws, perhaps through some sort of an occupational tax.

Mr. Smith then reminded Mr. Pelley of New York's recent attempt to "put a heavy tax on big trucks." The attempt failed, Mr. Smith said, because it was found that too many of the big trucks operated intra-city. A tax might be imposed on corporations seeking charters to enter the trucking business Mr. Smith continued, but he did not think the unincorporated operator could be reached in this manner. Also he expressed the opinion that, if intra-city operators were exempt from a regulatory law, any successful attempt to confine those exempted to intra-city operations would require an unduly large highway police force.

Motor Carriers Subsidized

Later on when the subject of taxation for motor carriers was opened Mr. Cole declared that a distinction must be drawn between the highways as travel facilities for the general public and as places for doing business. It was the opinion of the L. & N. president in this connection that motor carriers can be said to be paying for the use of the highway as a place of doing business only to the extent that they are assessed over and above the normal taxes paid by the private automobilist. Motor carriers are subsidized, he continued, to the extent that they fail to pay the added cost involved in building. for their use, stronger and wider highways than the general public requires, plus perhaps a payment for the valuable privilege of doing business on the public roads.

Answers Brosseau's Charge

Mr. Cole here answered a charge made the previous day by A. J. Brosseau, vice-president of the National Automobile Chamber of Commerce, that the railroads were spending enormous sums of money in a campaign against highway transport. The railways, Mr. Cole said, are using the legitimate publicity methods to present their case but the amount of money spent is insignificant. On the other hand, he continued to say that he had read newspaper reports to the effect that the Highway Users Association "has filled a war chest of $375,000 to wage a fight in favor of truck transportation and existing subsidies to truck transportation."

A third discussion on this same subject of highway carriers was precipitated at another point in the presentation when Mr. Smith expressed the opinion that, while a movement to reduce railroad taxes might meet with favor, it would be impossible to aline public opinion in favor of more taxation for motor carriers. It was the former Governor's idea that the public is now educated to the idea that there are too many taxes of all kinds. This observation prompted General Atterbury to make the suggestion, mentioned in the foregoing, that the committee withhold its judgment on motor carrier regulatory and taxation proposals pending the report of the Joint Railway-Highway Users Committee. Thus General Atterbury replied in the affirmative when Mr. Smith asked if the former wanted the record to show that "what is said in the brief about the regulation of buses and trucks is not final."

But Mr. Cole was on his feet immediately to declare that he could not "subscribe to General Atterbury's answer that these are not final recommendations."

"They are final recommendations as to principles," Mr. Cole continued. "What General Atterbury is talking about is details. When the Atterbury committee was authorized to join with the Highway Users Conference it was with the distinct understanding that their activity would not interfere with the Association's legislative program."

All Transport Agencies Should Pay Their Way

Mr. Pelley followed with the suggestion that there is a place for the truck and a place for the bus and said that his interest was in stabilizing the situation. In answer to Mr. Smith's proposal that stabilization be effected by reducing railway taxes instead of increasing motor taxes Mr. Pelley suggested that every agency of transport should pay its way.

"A thing you railroad presidents must keep in mind," Mr. Smith observed emphatically, "is that motor trucking is the natural march of progress and you can't penalize it."

"But motor carriers don't pay their way," Mr. Pelley retorted.

"But to make them do so would take more taxes," Mr. Smith replied.

"Yes," agreed Mr. Pelley.

"Well if you can sell that idea to the public you're a wonder," was Mr. Smith's next rejoinder.

"Well, we're going to try to sell it," insisted Mr. Pelley.

"Well, I wish you luck," said Mr. Smith.

General Taxpayers Burdened

Mr. Cole came forward at this point to suggest to Mr. Smith that the general taxpayers, "your friends, Governor," are being burdened by the present set-up. Whereupon the former New York Governor observed that the highways are already in existence and the people don't care who uses them. But Mr. Cole did not agree that the people were so disinterested and cited a situation in South Carolina where highways had been worn out before the bonds issued for their construction had been retired.

Mr. Thom closed the discussion with the observation that the railways were not trying to increase anyone's taxes. "We do say," he continued, "that as long as we pay this amount a competitor who is making money by the use of the highways ought to pay a comparable amount. We are only asking a proper apportionment of the tax burden."

Interspersed among the foregoing discussions were the questions of Mr. Legge who thought there was "quite a bit of confusion" as to what the railways really want. "It is said that much of your trouble is due to over-regulation," Mr. Legge continued. "How far do you want to go in taking the handicaps off the railroads and how far in putting handicap on railway competitors?"

Mr. Thom in reply referred Mr. Legge to Part II of the A. R. E. brief which contained the legislative pro-

posals and continued to say that, while the railways believe in regulation, it can go too far. "We do not believe that the government should prescribe managerial duties because we have faith in the ability and integrity of the men who are running the railways," he added. To Mr. Legge's next suggestion that all forms of transport be turned loose Mr. Thom objected on the ground that it would "throw open a field of temptation."

"But," Mr. Legge persisted, "if you ask for regulation of your competitors you are putting the government further into business."

To this Mr. Thom replied that the entrance of the government would be only in the regulatory end of business. Later on F. E. Williamson, president of the New York Central, spoke in opposition to Mr. Legge's proposal that all agencies of transport be turned loose. He cited the ramifications of the railway rate structure built up over a period of years in the interest of the country's business as a whole and stressed the desirability of preserving, through rate regulation, the established balance between the various producing and consuming areas.

Much in the way of stabilization could be accomplished through consolidations, Mr. Thom thought. If unifications were effected, he continued, there would be but a few men responsible for railway policies. He declared, however, that it was wrong to bring down consolidation from above and continued to explain how the railways have for nine years attempted to perfect a bill which will provide for voluntary consolidations not based on a plan.

Conflict of Opinion on Wages

The conflict over the wage question was precipitated at this point when Mr. Legge asked why none of the speakers had discussed the statement in Part II of the brief, reading as follows: "The railroads wish to emphasize the gravity of the problem confronting them and their investors, and the public, in what they believe is the serious maladjustment of railway wages." Mr. Thom replied that while the advisory committee was not empowered to deal with wages the matter was receiving attention. But Mr. Legge persisted, suggesting that railway working rules and regulations look to an outsider like "a near racket" and asking what the present set-up costs the public. The 100-mile basic day, Mr. Legge continued, may have been reasonable once but he wondered if it were today and he suggested comment on the question from Mr. Willard, who headed the committee of nine railway presidents which last January negotiated the one-year 10 per cent wage deduction agreement with labor representatives.

"That is a large question," Mr. Willard replied, "but the subject has not been overlooked. Whether it should have been mentioned in the brief is a question. Some of us thought that it shouldn't. This committee can't do anything about it—we've got to settle that ourselves, and if we cannot, the law points the way."

Willard Predicts Extension of Wage Agreement

Mr. Willard then discussed the status of present negotiations with labor. A committee representing the railways, he said, was soon to meet with the union representatives and he had no doubt but that the existing agreement, which was "an outstanding accomplishment," will be continued. Some railway executives, Mr. Willard continued, think there should be a further reduction but as for himself, he said, "I don't know." The B. & O. president next told how the United States Railroad Administration had during the war installed uniform wage rates throughout the country and thus deprived railroads in certain sections of the country of the advantages of the lower wage rates which they had previously paid. As for the 100-mile basic day arrangement, Mr. Willard said, this creates a sort of piece work.

"I suppose some adjustments ought to be made," he added but he thought that such could best be attempted after getting the present agreement continued; this latter he regarded as the foremost present consideration. "We don't need any report from this committee on that subject," he concluded.

Here Mr. Cole arose to record his disagreement with the point of view expressed by Mr. Willard. "This statement," the former declared in referring to that section of the brief quoted by Mr. Legge, "was adopted by the advisory committee by unanimous vote and, while Mr. Willard was not present his senior vice-president was." The wage question, Mr. Cole insisted, was within the purview of the committee which, he said, was concerned with the railroads and the wage question vitally affects the railroads.

Wages Enter Problem of Competition

"I don't want to be misunderstood," the L. & N. president continued, "for I yield to no one in my desire to pay the highest wages practicable. But this question of wages enters the problem of competition. The one thing that I think would be most effective in restoring prosperity would be a reduction in railway rates, both passenger and freight, and this is impossible with present wages. We are handicapped in liquidating the railway situation and I think there should be substantial further reductions in railway wages. There's a whole lot of loose talk about idle capital and idle labor which is all poppycock. These things are not comparable. Railroads must pay their fixed charges or go into the hands of the sheriff."

General Atterbury arose to "echo everything Mr. Cole has said" and in addition to point out how railway wages affect the free movement of all commodities. It was the earnest hope of the Pennsylvania president that the committee would consider the present scale of railway wages and its relation to other industry and agriculture.

American Short Line Railroad Association

Bird M. Robinson, president of the American Short Line Railroad Association, in a statement on behalf of that organization, stressed the fact that notwithstanding the serious conditions confronting most of the short lines, the great majority of them should be, and can be continued in operation in the interest of the public and its transportation system, provided they are afforded protection against a number of things with which they are now unjustly afflicted. Specifically, Mr. Robinson called attention to the fact that the consolidation provisions of the Transportation Act had largely failed by reason of the method of administration by the Interstate Commerce Commission. He likewise complained that the short lines have not been given the benefit of the provisions of the Transportation Act of 1920 with reference to an adequate share of the revenues charged for the transportation of freight. He especially urged the necessity for the immediate repeal of the recapture provisions of the Interstate Commerce Act, pointing out that the short and weak roads are confronted with a demand from the Interstate Commerce Commission for more than $25,000,000, under an act designed for the benefit of those roads.

The Reconstruction Finance Corporation has loaned the short lines $2,923,077, and denied loans to short lines in the amount of $13,037,864, according to the figures presented. "To prevent an appalling collapse of

railroads, both large and small, the law creating the Reconstruction Finance Corporation should be amended at the present session of Congress so as to permit loans to railroads for a long period of time, say not to exceed 15 years, on terms at least as liberal as those provided by Section 210 of the Transportation Act of 1920," said Mr. Robinson, pointing to the record made by the short lines in connection with past loans obtained from the government. Mr. Robinson also recommended that the law be so amended as to permit the Interstate Commerce Commission to allow short lines to participate in new through routes and in closing he endorsed the recommendations made by the Association of Railway Executives.

Inland Waterways Corporation

Major General T. Q. Ashburn, chairman and president of the Inland Waterways Corporation, the government-owned barge line, followed Mr. Robinson. He sketched the history of waterway development and of the Inland Waterways Corporation which latter, he thought, within 10 more years will have fulfilled its function as a government agency and can then go out of business. The General is, he asserted, no believer in government operation but he insisted that "certain conditions" laid down by Congress must be fulfilled before it can retire from waterway transport. He told how operations on the Missouri were determined by a recent survey to be practicable but he insisted that "no demand for extensions has ever been pressed" by him. He rather described himself as "simply the executive carrying out the mandate of Congress under the direction of the Secretary of War."

One of the greatest problems of the Inland Waterways Corporation, General Ashburn said, is met in connection with efforts to bring about co-ordination with the railways. Asked by Mr. Smith if the Federal barge line competes with the railways the General replied: "We compete, not to take away traffic, but to foster cheap transportation and thus build for the railroads." At another point he ridiculed the talk about unregulated water carriers as he cited Section 6 of the Interstate Commerce Act which permits railways to "put any rate in within 24 hours, and they do it." He conceded that such proposals are subject to suspension but insisted that many rates were allowed to become effective on short notice.

Replying to the prepared questions of the committee, General Ashburn knew of no service received by the Inland Waterways Corporation from the government which a private corporation in the same position would not get. He admitted that no taxes were paid on the Corporation's floating equipment but added that it pays state taxes where it owns fixed property. Most of the terminals used, however, he next explained, are municipal facilities and are paid for on a per ton basis. As for interest, none is paid but the General observed that "there are more ways of receiving compensation than through interest payments." Furthermore, he added, private corporations don't pay interest on the money they use unless it has been borrowed. No payment is made for the use of the waterways but General Ashburn said that a large part of the money invested therein would have been spent anyway for flood control and works of this latter type "protect railway property."

Investment Bankers Association

Earle Bailie, chairman of the railway securities committee, Investment Bankers Association, urged upon the committee a series of proposals similar to those submitted to the National Association of Mutual Savings Banks and the Security Owners' Association. In questioning Mr. Bailie the committee members inquired about the attitude of bankers toward the past railway policy of refunding bonds instead of retiring them at maturity. Mr. Bailie conceded that surplus railway earnings might have been used to retire bonds but then, he said, new capital improvements would have been financed by new security issued. The same effect—increasing the proportionate investment of railway owners—has therefore been produced in Mr. Bailie's opinion by the railway policy of refunding existing bonds and using surplus earnings to finance capital improvements against which no securities are issued.

When Mr. Legge, stating that all business is in difficulties, asked why the railways were singled out for aid, Mr. Coolidge prompted Mr. Bailie, saying, "It's a public necessity to keep the railroads running isn't it?" When Mr. Bailie replied in the affirmative Mr. Coolidge further asked, "It's on that theory, isn't it, that the money is loaned?"

Railway financial difficulties, Mr. Legge next observed, are different from those of other industries only because railways happen to be operating more on borrowed money, and Mr. Bailie agreed but said that "there may be social and political justification for treating the railways differently." Here Mr. Coolidge again entered the discussion to point out that, "of course, the money of the R. F. C. is open to many besides the railroads."

Railway Business Association

Harry A. Wheeler, president of the Railway Business Association, discussed the recommendations submitted in the brief filed by that organization. The R. B. A. definitely recommended the retroactive repeal of recapture; retirement of the government from the transportation business; a uniform code of taxation for highway and water carriers; either regulation of railway competitors or release of the railways from present restrictions.

The R. B. A. brief also discussed the decline in railway purchases and declared that, "Next to the restoration of buying power to the farmer, we regard the restoration of railroad buying power as a vitally helpful influence." In this connection the brief called to the attention of the committee the "extended discussion in the *Railway Age* of December 3, which in our judgment sets forth conditions that prevail quite generally in various sections of the country."

In his oral presentation Mr. Wheeler declared that railroad credit has not broken down and suggested that the recovery which some persons now see under way will be stimulated if R. F. C. loan requirements are made more liberal.

Mr. Legge referred to what he called some criticism of the railroads' failure to adopt new methods but Mr. Wheeler did not think that the railways intentionally delay the installation of more efficient facilities; there is not always agreement among railway officers as to the merits for a new device, he explained. "They are, however, alive to the situation," he added as he proceeded to cite the inadequacy of earnings in the past as another factor making for delay.

It was Mr. Wheeler's contention in this latter connection that railway earnings in the past have been insufficient to warrant the inclusion of adequate depreciation charges in operating expenses. If it were possible to accrue adequate depreciation reserves, he continued, the facilities replaced could be written out of the books against such reserves and this plan would enable railways to install modern equipment without continually increasing their capital investment. The

railways, Mr. Wheeler concluded, have not in the past had the earnings to offset depreciation and "depreciation is something for this committee to consider, especially where the earnings to offset it are coming from."

William H. Woodin, president of the American Car & Foundry Company, who, with other supply trade executives, accompanied Mr. Wheeler, spoke briefly to urge that the committee have someone submit to it a brief on the activities of the Interstate Commerce Commission.

James A. Emery, general counsel, directed the presentation of the National Association of Manufacturers which organization set forth that railway rates should be proportionate to commodity prices. They are not so today, Mr. Emery said, because of, (a) The failure to co-ordinate transport; (b) the failure to adjust railway labor costs; (c) excessive taxation of rail carriers; (d) the rigidity of the railway rate structure. Truck transportation, this organization held, has become an essential form of service but it favored regulation for motor transport comparable with that imposed on the railways.

E. D. Williamson, appearing for the Shippers' Conference of Greater New York, declared that the increased cost to the railways of capital for improved facilities has overtaken the amount which has been saved by reason of operating economies effected. Competitive wastes, Mr. Williamson thought, could be eliminated without actual consolidation if pooling arrangements were effected. The Shippers' Conference, he revealed, is on record as being opposed to consolidation of the railways. In response to a question of the committee, Mr. Williamson said that the present level of railway rates is "substantially beyond the ability of commerce to pay."

National Industrial Traffic League

The presentation of the National Industrial Traffic League, after a brief introductory statement by George A. Blair, chairman of the executive committee, was made by R. C. Fulbright, chairman of the legislative committee. Mr. Fulbright advocated co-ordination of transportation and cited the St. Louis-Southwestern as one of the leaders in the efforts of the railways to meet competitive conditions. He thought that railroads should be given more freedom to meet competitive conditions but he did not believe that "any quick solution of the transportation problem is possible." Rather, he suggested that "the report of this committee must in the nature of things be a partial report. Much study has yet to be done by other disinterested agencies and only a distorted picture will result if we undertake to judge a permanent policy by the present situation."

Mississippi Valley Association

The Mississippi Valley Association, its executive vice-president, Lachlan MacLeay, declared, is in no sense anti-railroad although it is not in accord with proposals to permit railroads to operate barges on the inland waterways. "When they had the privilege," he explained, "they did not use it in the public interest—they used it to eliminate water transport." Like General Ashburn this organization opposes government in business but also, like the General, it insists that the Inland Waterways Corporation be continued under federal auspices until "certain objectives" are obtained, i.e., until "it has been made secure for private capital to take over the operation."

The Mississippi Valley Association has made no study of total costs of water transport nor has it reached any agreement to the effect that water carriers should be regulated. In fact the Association "is not aware of just what is meant by the regulation of water transport—it doesn't know just what is proposed. Regulation would increase costs and shippers don't require it; we have not seen the abuses that grew up around the railroads."

Canal Lines' Executives' Committee

The Canal Lines' Executives' Committee, the members of which transport approximately 75 per cent of the commercial tonnage moving through the New York State Barge Canal, declared, in its brief, that "in the interests of both water and rail transportation, as well as the shipping public, it is believed that constructive and effective governmental regulation of the waterways, inland as well as coastal and inter-coastal, must at once be provided." The minimum of regulation, the brief continued, should empower a regulatory body to require adherence to published tariff rates and to prescribe minimum and maximum rates.

But this organization would go further for it suggests that "effective regulation should reach all water carriers for hire, whether common carriers or not." It, therefore, recommends a regulatory plan which would include: Provisions requiring water-carriers to obtain certificates of public convenience and necessity; stringent penalties for any violation of the regulatory statute; compulsory formation, without discrimination, of through routes as between connecting water lines and as between rail and water carriers; suitable regulations governing the interchange of traffic between water carriers and motor trucks; and power to classify waterway operators according to general types of operation.

In his oral presentation, Charles E. Cotterill, counsel for Canal Lines' Executives' Committee, stated that if only the minimum regulation suggested be adopted it might well be lodged with the Shipping Board but if a durable and effective plan be accepted his clients favor regulation by the Interstate Commerce Commission. They "see nothing in the record of the I. C. C. to indicate that it would be ruthless" with water carriers. Also, this organization would remove present restrictions against water line operations by railways. It believes that despite the past record of the railroads which in this connection "was not so good," proper safeguards could be provided. Furthermore, Mr. Cotterill said, the entrance of the railroads into the waterway field might "to some extent be a stabilizing influence."

Theodore Brent, appearing for the Upper Mississippi Waterway Association, opposed any regulation of water carriers. He likened the waterways to the public highways, stating that both should be "open to all." When Mr. Smith asked if "all" included the railways Mr. Brent replied in the negative, adding that the joint rate system is the "better way to permit railways to participate in the river traffic."

American Barge Line

W. C. Kelly, president of the American Barge Line, which operates on the inland waterways, made the final appearance which was an impassioned plea for a preservation of water transport in the interests of his "son and two little grandchildren" for whom Mr. Kelly has invested $2,000,000 in the American Barge Line. Congress improved the rivers and invited private operators to come on them, Mr. Kelly said, and it was unthinkable to him that "the American Barge Line must go out of business." He denied that his company was a "rate cutter" but admitted that his traffic manager occasionally has to accept low rates proposed by shippers and has to keep these rates confidential in order "to keep faith with the shipper."

Modern River-Rail Coal Transfer Plant

New facility of Pittsburgh & Lake Erie on Ohio river incorporates interesting features

THE Pittsburgh & Lake Erie has recently constructed, near Pittsburgh, what is said to be the most modern river-rail coal transfer plant in the Pittsburgh area. This plant, which has a capacity for handling 500 tons of coal an hour, and which involved an expenditure of approximately $450,000, is located on the Ohio river, at Colona, Pa., directly along the main line of the road between Pittsburgh and Youngstown, Ohio, about 23 miles west of Pittsburgh.

Interest in the new plant, which is of the straight-line type, employing a ten-yard, eight-ton clam shell bucket, is aroused not so much because of its size or capacity, but rather because of the effectiveness of the facilities and the layout provided and the smoothness and economy with which it can be operated. The principal units of the new plant, which is laid out in a natural harbor outside of the main river channel where transfer operations can be carried on without interference with navigation, include a transfer tower spanning two loading tracks, with a fixed transfer boom which carries the conveyor bucket; a suitable dock with adequate depth of water and facilities for mooring barges; two 200-ton track scales for weighing the loaded cars as they move from the tower; and a suitable layout of empty, load and running tracks, providing gravity operation through the plant.

Straight-Line Operation

The transfer tower, which is stationary and of steel construction, is 28 ft. by 38 ft. at its base, spanning two tracks on 13 ft. centers, and rising to a height of 114½ ft. The transfer boom, which provides for straight-line operation between barges and cars, is 111 ft. in length from the center of the tower to its outer end, and is located about 65 ft. above the base of the tower and approximately 90 ft. above pool level. This boom carries a trolley, which carries the unloading bucket back and forth between barges and the tower. The bucket has a hoisting speed of 400 ft. per min., which, combined with the movement of the trolley, permits a full hoisting cycle at the plant in approximately 36 sec.

The coal hoisted from the barges is dumped into one or both of two hoppers located in the tower, each having a capacity of 75 tons. The hoppers, which are built as a twin unit with one hopper over each loading track, are each equipped with motor-operated undercut gates and car-trimming chutes controlled from trimmer's platforms alongside the chutes.

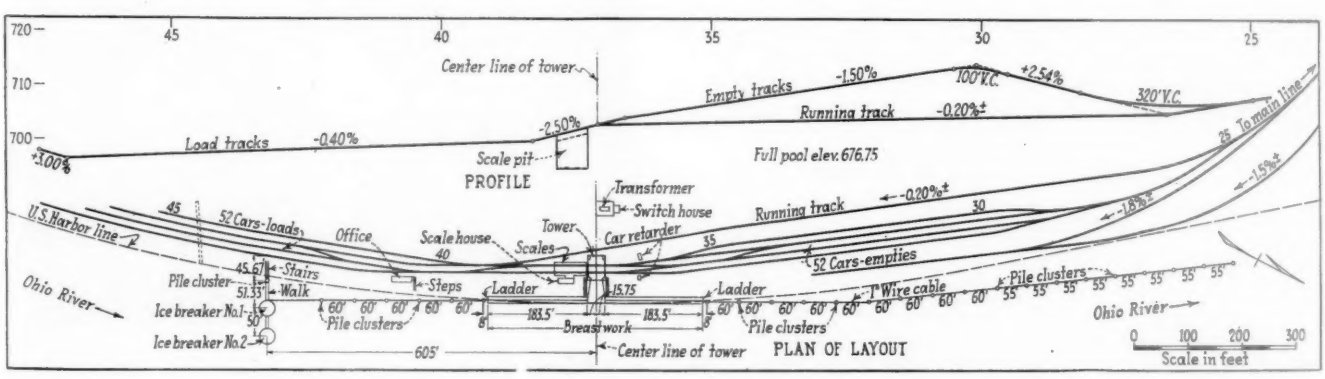
The same men who control the flow of coal from the hoppers also control the gravity movement of the cars throughout the loading period, synchronizing this movement with the loading speed of the chutes. Control of the car movement is effected by means of two cable, brake-type car retarders, one for each of the loading tracks, which are located just in advance of the tower. In this type of retarder, a cable acting over a brake drum is provided for attachment to cars as they pass, which is played out only as the braking action, governed by hand from the trimmer's platforms, is relieved. After a car has been loaded, the cable hook is freed from the car and the cable then retracts itself automatically within the retarder through the action of a counterweight. This brings the hook back to its initial position, ready for attachment to the following car.

With the exception of the car retarder action, operation of the plant is entirely by electric power, the main power units including a 350-hp. hoisting motor, a 150-hp. closing-line motor, a 100-hp. rack motor and two 50-hp. barge-shifting motors. All of these units are housed in a machinery room, 28 ft. by 38 ft., at the top of the tower. This room, which is enclosed with corrugated metal sheets, also houses a power-operated reeving winch to facilitate making cable replacements, and a five-ton repair hoist, operated by a 15-hp. motor, to permit the renewal or replacement of any of the machinery units. All of the motors in the machinery room are controlled through master switches located in an operator's cab on the river side of the tower, where one operator has full control over all of the plant operations except that of loading cars.

Current for the operation of the plant is purchased at 22,000 volts. This is stepped down to 2200 volts and is metered in an outdoor substation constructed about 100 ft. back of the transfer tower. Other transformers nearer the tower step the current down further for operating the plant machinery and for lighting purposes.

Features of Scales and Dock

All loads are weighed just beyond the loading chutes, where they pass over two-section, knife-edge track scales



Track Profile and Layout Plan of the New River-Rail Coal Transfer Plant of the P. & L. E.

The New River-Rail Coal Transfer Plant at Colona, Pa.

of 200 tons capacity, one of which is located in each of the loading tracks. These scales, which provide for spot weighing, lie side by side in the same pit and have their weigh beams in a single scale house located on the inshore side of the loading tracks. To insure the greatest accuracy in weighing, both scales are equipped throughout, from their main levers to their weigh beams, with compensating bearings, and the operating lever handgrip on the main poise of each scale is placed so as to act parallel with the weigh beam instead of crosswise of it, this latter feature minimizing any possible disturbance of the beam while weights are being recorded.

The dock at the plant consists essentially of a creosoted timber breastwork, 400 ft. in length, with a walkway along its top at an elevation of approximately 34 ft. above pool level. In addition to this, however, there are 24 clusters of treated piles, spaced about 60 ft. center to center, for mooring barges. Six of these clusters are up stream from the breastwork and 18 are down stream.

The entire dock is protected against damage by river ice by means of two large ice-breakers, which are located immediately up stream from the last up-stream pile mooring cluster and about 50 ft. center to center at right angles to the dock face. These breakers, which are constructed of steel sheet piling, are in the form of cylinders 30 ft. in diameter, and they extend 33 ft. above pool level. Eighty-foot piles were required in the construction of the ice breakers because of the character and depth of the material in the river bottom.

With a minimum pool depth of 13 ft. 9 in. alongside the dock, and the large number of mooring clusters provided, a considerable fleet of barges of any size operated in the river coal trade can tie up at the plant at one time. To move the barges about, two barge shifters are provided, each with a travel of 350 ft. These units, which provide a shifting speed of about 75 ft. per min., and which can be operated independently or in tandem, are controlled by the tower operator in his cabin on the side of the tower.

Gravity Car Movement Provided

The track layout at the plant consists essentially of a four-track empty-car yard north of the transfer tower, with capacity for 52 cars; two loading tracks beneath the tower; a stub-end load yard of four tracks, south of the tower, with capacity for 52 cars; and a running track having connection with the north end of the load yard, over which loads are pulled out to the single-track lead to the plant from the main line.

To permit gravity operation through the plant, the empty yard was built on a fill and was given a descending grade of 1.5 per cent toward the transfer tower. This grade was maintained on the loading tracks up to the spotting point under the tower, beyond which for a distance of about 120 ft., which includes the track scales, it was increased to 2.5 per cent descending. South of this point and throughout the length of the load yard, the grade was flattened to 0.4 per cent descending, except at the extreme end of the yard where a short, car-stopping grade of 3 per cent ascending was provided. The running track, or pull-out track from the load yard, has a maximum grade of 0.2 per cent. Approximately 115,000 cu. yd. of filling was required in providing these grades, the filling material consisting of about 90,000 cu. yd. of granulated slag and about 25,000 cu. yd. of hard coarse slag, the latter being used for facing the side slopes of the fills.

The effect of the new river-rail coal transfer facilities in reducing the all-rail coal freight rates to points in Ohio, northwestern Pennsylvania and western New York, to which points most of the coal handled through the plant will move, is seen in the new tariff which was filed and which became effective on June 16, applying to ex-river coal from Colona. The new ex-river rate from Colona to Youngstown, Ohio, is $0.77 per net ton, and from Colona to Cleveland, Lorain and South Lorain, Ohio, $1.27 per net ton; plus, in each case, the emergency charge of $0.06 per net ton applicable to coal, and a charge of $0.12 per net ton for transferring the coal from barges to cars. The all-rail rate on coal from the Pittsburgh district to Youngstown is $1.34, and to Cleveland and Lorain, $1.84, and the all-rail rate from the Connellsville district to Youngstown is $1.42, and to Cleveland and Lorain, $1.90. All of these all-rail rates are also subject to the emergency charge on coal of $0.06 per net ton.

The new transfer plant, which was conceived and authorized by C. M. Yohe, vice-president of the Pittsburgh & Lake Erie, was planned and constructed under the supervision of R. P. Forsberg, chief engineer, assisted by G. H. Burnette, assistant chief engineer, who was in direct charge of the work. Actual construction was done by the Dravo Contracting Company, Pittsburgh, except for the grading and track work, which was done by railroad forces.

* * *

Collons, Chicago

The Illinois Central Electrification Along the Chicago Lake Front

I. C. C. Report on Six-Hour Day Investigation

Increase in expenses estimated at $630,000,000 a year on eight-hour basis of compensation

WASHINGTON, D. C.

APPLICATION of the principle of a six-hour day in railway employment would have the initial effect of increasing the operating expenses of the railways collectively and the express and sleeping-car companies at the rate of approximately $630,000,000 a year, on the basis of 1930 experience and assuming no reduction in the then-existing compensation for a basic day's work, the Interstate Commerce Commission reported to Congress on December 13 as the result of an investigation undertaken earlier in the year in response to a Congressional resolution.

Assuming a pro rata reduction in compensation the commission found, on the same basis, that the initial effect would be to decrease operating expenses at the rate of approximately $26,000,000 a year, excluding road train and engine service from consideration. Upon either basis of compensation it found that the application of the principle of a six-hour day would render necessary between 300,000 and 350,000 additional carrier employees in a year such as 1930, and between 60,000 and 100,000 additional employees in a year of abnormal economic conditions such as now exist. The commission's estimate of the cost was somewhat less than that presented by witnesses for carriers at the hearings, who had placed it at $702,408,955, and the report suggested that present estimates may exaggerate the burden of the change in actual practice, but it added that the economies in operation which tended to offset the additional cost of the establishment of the basic eight-hour day in 1917 were largely economies resulting in a reduction in the number of employees and that they were obtained by increased capital investment. No opinion was expressed by the commission as to the wisdom or expediency of the six-hour day. The full text of the findings follows:

Findings

We are directed by the resolution to report our findings as to "the effect upon operation, service, and expenses of applying the principle of a six-hour day in the employment of all classes and each particular class of railway employees because of such application." As has been indicated, we have construed the term "railway employees" to include the employees not only of steam railways but also of electric railways, express companies, and sleeping-car companies. The investigation relates to a possible future event, and therefore the element of prediction enters in. Methods of operation, speed and excellence of service, amount of business, and skill in management are among the constantly changing factors which will affect the future. A forecast based on presently available information is all that is possible. We shall make the best forecasts which our judgment permits, indicating in our findings certain important contingencies which may affect their accuracy.

Operation and Service. The principle of a six-hour day can be applied, so far as physical conditions are concerned, without material effect on the operation and service of the several carriers. The effect on expenses, indicated below, might affect operation and service, dependent on revenues. If there were no increase in revenues corresponding to the increase in expenses, the result might be to force abandonment of operation in certain instances, either of entire properties or of parts of properties, through inability to earn operating expenses. Abandonment of entire properties would not be likely to occur, except in the case of certain short-line steam railways and electric railways. In other instances, the effect of insufficient revenues might impair future credit in such a way as to affect operation and service adversely. The latter effect might be overcome in time by improving revenues or by financial reorganizations. We deem it impracticable to forecast the future course of carrier revenues. Obviously, this is dependent upon a great variety of possible factors, by far the most important of which is the economic condition of the country.

Expenses. (a) Assuming the same volume of traffic and operations as in 1930, and assuming no reduction in the then-existing compensation for an 8-hour or other basic day's work, the initial effect would be to increase operating expenses of the carriers collectively, including the express and sleeping-car companies, at the rate of approximately $630,000,000 per year, or about 14.6 per cent of the operating expenses and approximately 22.2 per cent of the pay-roll expenses in 1930. However, the compensation of steam-railway, express and sleeping-car employees was on February 1, 1932, reduced 10 per cent by an agreement which expires on January 31, 1933. There was no similar blanket reduction in the wages of electric railway employees, but we understand that there have been various reductions in those wages. If the wage reductions are continued, the above estimate of $630,000,000 would be reduced to something less than $570,000,000 per year.

(b) Assuming the same volume of traffic and operations as in 1930 and a reduction in the then-existing compensation pro rata to the reduction in the basic day's work, and excluding road train and engine service from consideration for the reasons given in the preceding discussion, the initial effect would be to decrease operating expenses of the carriers collectively, including the express and sleeping-car companies, at the rate of approximately $26,000,000 per year, or about 0.6 per cent of the operating expenses, and approximately 0.9 per cent of the pay-roll expenses in 1930. Allowing for the wage reductions above mentioned, this estimate would be reduced to something less than $24,500,000 per year.

It will be noted that in the above findings we assume the "same volume of traffic and operations as in 1930." Regarded from the standpoint of the 10-year period ended with 1931, 1930 was a fairly normal year, but whether it can be regarded as representative of a normal future year remains to be seen. Using the same percentages of operating expense, and assuming the same volume of traffic and operations as in the 12 months ended with September, 1932, the initial effect would be an increase at the rate of approximately $414,000,000 per year under the first assumption with reference to wages and a decrease at the rate of approximately $20,000,000 per year under the second assumption. While the reductions in wages were in effect after February 1, 1932, there were also reductions in commodity prices which affected the operating expenses in the 12 months ended with September, 1932, as compared with the operating expenses in 1930. We do not as yet have sufficient detailed information in regard to operating expenses in the more recent period to determine whether use of the same percentages as for 1930 produces fair estimates. Changes in operations and methods of performing work, as well as changes in wages, might affect the percentages. Probably, however, the estimates of $414,000,000 and $20,000,000 above given are both somewhat too high, if wage reductions are to be continued.

Table I

Class I railways and Class I switching and terminal companies	$620,438,577
Other steam railways and other switching and terminal companies	21,342,145
Electric railways	23,190,157
Railway Express Agency	24,067,681
Southeastern Express Company	618,373
Pullman Company	12,752,022
	$702,408,955

It will also be noted that in these findings we speak of the

"initial effect." It is our belief that the increase in expenses at the outset under the first wage assumption would gradually be lessened and that the decrease in expenses at the outset under the second wage assumption would gradually be increased, as the result of experience with the proposed new arrangement and by technological developments.

It will finally be noted that our estimates, based on the same volume of traffic and operations as in 1930 and the then-existing compensation, are somewhat less than those submitted by the carriers. The carriers' estimates of increased expenses, prorated to operating expenses, were, assuming no reduction in basic day's pay, as shown in Table I.

Table II

Class I railways and Class I switching and terminal companies	$556,000,000
Other steam railways and other switching and terminal companies	19,000,000
Electric railways	21,500,000
Railway Express Agency	22,000,000
Southeastern Express Company	500,000
Pullman Company	11,000,000
	$630,000,000

Upon the basis of our total estimate of $630,000,000, the above amounts would be substantially as shown in Table II.

Attention is again called to the fact that these figures are based upon the compensation paid in 1930.

Our reductions are a matter of judgment and are due to the impression which we have gained from the evidence that the carriers have probably underestimated somewhat the rearrangements of work and other expedients which could immediately be employed to limit the effect upon expenses. The reductions are, therefore, more or less arbitrary and cannot be supported by any definite mathematical computation. Experience would, we believe, disclose the practicability of still other rearrangements and expedients and the amount of added expense, assuming no reduction in basic pay, would also be reduced gradually by the further development of mechanical labor-saving devices and other technological improvements. The added expense would, no doubt, stimulate such development. The only way in which, in our opinion, a more accurate advance estimate could be made of the effect of the application of the principle of a 6-hour day would be by an actual test on some representative railroad or section of a railroad, or by intensive field studies conducted by representatives of the carriers and employees jointly, preferably under the supervision of this Commission.

The effect, so far as expenses are concerned, in the case of each class of employees is sufficiently indicated in the various appendices, allowing for the fact that we have reduced the carrier's total figures somewhat.

In addition to the effect upon operating expenses, there would be an effect upon construction expenses, in so far as the carriers' employees are used on construction work. Such minor additions to construction expense, however, would have an insignificant effect upon interest charges or dividend payments. Moreover, the amount of construction work which will be done in the future is problematical. At present comparatively little is being done.

Upon either basis of compensation the application of the principle of a 6-hour day would render necessary between 300,000 and 350,000 additional carrier employees in a year such as 1930, and between 60,000 and 100,000 additional employees in a year of abnormal economic conditions such as now exist.

The sharp declines in railway employment which have occurred were not due wholly to the present business depression, the report says, but were due partly to conditions which have developed gradually over a period of several years, and tables for the years 1920 to 1931 are given to show "the persistent decrease in employees in comparison with volume of work done."

The effect of the application of the principle of a six-hour day is discussed more in detail with reference to five principal reporting groups of employees, the Class II and smaller steam roads, the electric railways and the express and sleeping car employees. In determining the effect, the commission has assumed that in general the principle would be applied to each class of employees in substantially the same manner that the principle of the eight-hour day is now applied. However, it construes the principle of a six-hour day to mean that the number of hours worked per week or per month shall equal the product of the number of work days in the period times six, and not as necessarily limiting each day's actual employment to six hours. The impracticability of an actual six-hour day was stressed by both the carriers and the employees as to some classes of work.

"The question arises," the report says, "as to whether we should assume, in determining what would be the effect of applying the principle of a six-hour day, (1) a six-hour day at the existing eight-hour or other basic-day pay, or (2) a six-hour day at pro rata pay, that is, at a rate of pay per hour equivalent to what is now paid. Past negotiations with the employees have convinced the carriers that a six-hour day at the present basic-day pay is contemplated by the resolution. The employees agree, stating that the purpose of a six-hour day is to create employment for more men and not to reduce the compensation or lower the standard of living of those now employed. We think that assumption (1) is correct, but shall make our findings on both bases."

Some additional extracts from the report are as follows:

Effect of Eight-Hour Law

An inquiry now as to what further changes in operation have occurred since 1917, to reduce the cost resulting from the 8-hour basic day in train service, meets with the difficulty that there have been many forces at work tending to reduce costs and it is impossible to distinguish those which may have been the direct result of efforts to adjust operations to the 8-hour basis of pay from those which may have been actuated by other reasons. It perhaps would serve no good purpose to make such a segregation, even if it were possible, because we are interested not so much in testing the reliability of the predictions made in 1917 as to the additional cost of the 8-hour day, as we are in the broader fact that this cost was destined to be minimized or absorbed by the increased economy and efficiency in operation which were eventually accomplished, whatever may have been the impelling reasons therefor. It should be noted that the Adamson act did not require payment for overtime at a higher rate than for straight time. A punitive rate of time-and-a-half for overtime is now generally in effect.

Much has been done during the past 12 years to reduce the unit cost of transportation service. Improved motive power, better signalling, and better track and yard conditions have contributed to that end. Engine runs as distinguished from crew runs have in many instances been lengthened. As a result of these developments, payments for overtime have progressively become of less importance since the introduction of the 8-hour day.

As in the case of the train-service employees, changes in methods and practices since the establishment of the basic 8-hour day for other employees have tended to absorb or minimize the additional cost which it initially imposed. Machines of greater capacity were installed in shops which made possible greater production with less labor. Some of the roadway work was mechanized. Improved methods of shop administration were introduced, including budgeting, greater stabilization of employment, and the scheduling of repairs. In 1923, the carriers generally entered upon an extensive program of capital expenditures to provide improved facilities and to increase the efficiency of operation and, consequently, to reduce transportation costs. According to reports for the period 1923-1929 made to the American Railway Association, the carriers put in service 894,264 new freight cars and retired 1,070,566 old cars; they also put in service 15,431 new locomotives and retired 26,336 old locomotives. These additions and retirements resulted in immediate reduction

Table III

Equated revenue ton-miles per man-hour

Year	Transportation train, engine and yard	Maintenance of way and structures	Maintenance of equipment and stores	All employees (except general and division officers)
1916	494	380	361	97
1917	508	424	369	103
1918	515	436	344	103
1919	555	474	358	108
1920	542	487	357	109
1921	547	526	381	110
1922	540	535	401	113
1923	554	563	378	118
1924	608	563	410	122
1925	636	583	438	129
1926	649	574	465	133
1927	665	553	480	133
1928	692	578	507	139
1929	701	575	522	141
1930	701	605	533	141

of the amount of necessary repair work, which, coupled with the installation of modern shop machinery, made possible a very large reduction in the number of employees even before the effect of the present depression was felt.

Notwithstanding the reduction in the measure of a basic day's work in most cases from ten to eight hours, the productivity as measured by equated revenue ton-miles per man-hour increased 45.4 per cent from 1916 to 1930, as shown by Table III.

The foregoing considerations suggest that present estimates of increased cost which would result from a future transition to a 6-hour day, even though carefully and honestly made, may exaggerate the burden of the change in actual practice. Carrier witnesses deny that this would be a reasonable inference, because, they say, there is now less room for improvement than there was at the time of the introduction of the 8-hour day. There is some force in this contention, because the railroads in the period 1916-1920 were less adequately equipped to handle the traffic offered than they are now; but it is hazardous to set limits to the future possibilities in the introduction of labor-saving devices which would serve to lighten the cost involved in shortening the work-day, and which the introduction of the shorter day, especially with punitive overtime, would tend to stimulate.

It should not be overlooked, however, that the economies in operation which tended to offset the additional cost of the establishment of the basic 8-hour day were largely economies resulting in a reduction in the number of employees, and that they were obtained by increased capital investment.

Representatives of both the carriers and the employees testified substantially that, leaving financial questions out of consideration, forces could be so reorganized and operations so conducted that neither operation nor service would be adversely affected by the application of the principle of a 6-hour day. Practically all exhibits and testimony of record relate to the subject of expenses.

Preliminary to the preparation of data to show what effect the 6-hour day principle would have upon expenses, committees assigned to make studies were appointed by the carriers for each of three territorial districts, *i. e.*, eastern, southeastern, and western. These committees in joint conference selected for study roads which in their judgment were representative of the respective districts.

In order to complete the work in the time allotted, the detailed studies were limited to certain divisions, shops, and yards which they deem representative of the road selected. The year 1930 was selected as one of fairly normal conditions, and August as a month representative of that year. Witnesses for the carriers stated that in conducting the studies a careful survey was made of the operations of the various departments, and in determining what the effect of applying the principle of a 6-hour day would be, allowance was made for such changes in methods and practices as would, in the committee's judgment, be practicable for the purpose of holding the increase in expense to a minimum.

Carriers' Exhibits

Exhibits introduced by the carriers were prepared on the two bases, (1) then-existing pay for eight hours work to be paid for six hours work, and (2) pay for six hours work on a pro rata basis, i. e., six-eighths of the then-existing daily rate.

The carriers, at our request, prepared exhibits purporting to show what the effect upon expenses of applying the principle of a 6-hour day would be with compensation computed on the pro rata basis, i. e., six-eighths of existing daily rate. The same methods were followed as in the case of the original exhibits. No change was, therefore, made in number of hours worked or in number of employees required. As is shown by Appendix V, the carriers estimate that under this alternative basis of compensation pay-roll costs would, on the basis of 1930 operations, have been reduced by $76,673,605. By applying 92.72 per cent, which represents the proportion of the pay-roll expense chargeable to operating expenses in 1930, the decrease in operating expenses would be $71,091,767, or 1.79 per cent.

Approximately 57 per cent of this computed decrease rests on the assumption that payment of road train and engine service employees would be on the basis of six-eighths of present compensation. In the case of most railroad employees, this basis produces the same rate of pay per hour as was then being paid. It involves a reduction in pay per hour of service, however, if applied to train and engine employees who are paid on a mileage basis. For example, assume a through freight conductor running 100 miles in six hours (time called until time relieved) at a rate of 6.56 cents per mile. Under the present schedule his compensation per day would be $6.56. If such an employee should be paid on the basis of six-eighths of present compensation, he would receive only $4.92 per day, although performing the same quantity and quality of work as before the change. It may well be questioned whether this is a consistent application of the alternative basis of compensation. The remainder of the decrease is due largely to the assumption that certain employees could perform their present tasks in six hours, so that no additional employees or overtime payment would be required.

It is quite possible that changes in the facilities, methods, and practices of the carriers would tend to absorb or diminish gradually any additional expense of the 6-hour day. Among such possibilities are increased speed, due to larger locomotives, grade reductions, or grade separations, and less delay, due to improved signals, centralized control, improved loading and unloading facilities, longer sidings, or improved terminal facilities. Some of these improvements would tend to reduce the number of employees and others to lessen the payments for punitive overtime. It is clear that the ultimate effect or even the immediate effect on expenses can not be computed from past performance by mathematical formulas and without consideration of such possible changes. The carriers, in their studies, have allowed for some rearrangement of forces and changes in methods, and probably went as far in this direction as was possible in a preliminary study. But we doubt that allowance has been made for all the changes which actual experience under the proposed new arrangement would show to be practicable and desirable and which would lessen the expenses resulting from the application of the principle of a 6-hour day.

Estimated percentages of increase or decrease in expenses or in the number of employees which would result from the application of the principle of a 6-hour day based on 1930 operations, would probably be somewhat in error if applied to 1932 operations, owing to the sharp curtailment of unprofitable services, the deferring of maintenance, the consolidation of certain activities, and other changes made since 1930 to reduce expense. The effect upon employment might be to increase the number of employees only where the operation is continuous. Where employees are now working on a part-time basis, the effect of a 6-hour day might be to increase the number of days worked but not the number of employees. In other words, it is evident that assuming the results of the carrier's studies covering 1930 to be correct, they would be exactly realized in the future only if 1930 conditions were duplicated.

Statement and Evidence Submitted by the Employees

Counsel for the Railway Labor Executives Association and various employee organizations which were represented at the hearings defined the principle of a 6-hour day "as envisaging a livelihood to the worker as the product of substantially six hours work per day for each working day, assuming the desirability and general acceptance of a one day rest in seven, with recognition of the fact that in many instances existing conditions and future conditions may require, as the practical means of applying this principle, a different allotment of time in each work week or work month than the mathematical allotment of six hours out of each work-day." He urged that, "it is the purpose of the application of the principle of the 6-hour day to relieve unemployment and not to provide a means of increasing the earnings of the employee, nor, on the other hand, a means of decreasing earnings, nor to establish any limitations upon days that may be worked per week or month, leaving such a question to be dealt with in negotiations."

The position of the employees is that the adoption of the shorter work-day is a social and industrial reform which is essential to the solution of our economic difficulties and the restoration of prosperity, and that the results of such a change would more than justify its cost. Certain groups of employees submitted evidence tending to show that lessening the hours of labor would promote safety of operation and improve the morale and efficiency of employees. This is, of course, something difficult to prove in advance and impossible to translate into dollars and cents of prospective savings.

The employees stated that they were able to furnish no comprehensive estimates of the added expense which would be entailed in applying the principle of a 6-hour day, because they do not have access to the basic data necessary for such computations. They agree that under application at the present basic day's pay there would be added expense but, as previously stated, urge that the results obtained would justify such cost. Witnesses with many years of practical railroad experience testified that if the principle of a 6-hour day, without change in the basic pay for eight hours, were actually put into effect, the amount of increased expense estimated by the carriers would, in their judgment, be found to be excessive, especially so when the net results were considered as contrasted with consideration of increase in pay roll only. Considerable specific evidence indicating that the carrier's estimates are excessive was presented, and is hereinafter discussed.

The employees offered a series of exhibits dealing with train and engine crew wages on performance unit bases over a period of years, to show that productivity has increased in greater ratio than pay.

It was made plain that the interest of the employees in having the principle of a 6-hour day applied in railroad work is not to

be interpreted as an effort to increase wages. They do seek to maintain work for present employees and to restore employment for former workers without lowering the standard of living through a reduction in earnings.

Some of these matters go primarily to the wisdom and expediency of a 6-hour day and are not within the scope of the investigation which we have been directed to conduct. Others do have a direct bearing on the questions of fact before us, but are of such a nature that it is impracticable to measure the effect which they might have.

In discussing the application to train service, the report said:

> Much testimony was given as to the effect of speed of trains upon wages paid to engine and train crews. Under the method of payment in vogue, crews are paid for all miles run, with a minimum of a basic day's pay. The speeding up of trains does not affect the regular or mileage rates, and hence its only effect on compensation is to reduce the amount of overtime paid. A witness for the carriers expressed the view that the gradual increase in train speed which has taken place was not due to the Adamson act, but rather to demands of shippers for more expeditious service. Improved equipment, motive power, track, yards, grades and signals materially increased train speed and reduced overtime. Comparing 1915 and 1930, average train speed was increased from 30 to 35 per cent and overtime was reduced from 18 per cent in 1915 to between 6 and 7 per cent in 1930.
>
> At present, most passenger-train engineers and firemen have, in effect, a 5-hour day, and most passenger conductors and trainmen a 7.5-hour day. Runs are of such length that they are now normally made in less than six hours, and there would be a negligible increase in overtime on account of a 6-hour day if such were in effect. In freight service, many runs are now made in less than six hours, or at a speed per hour in excess of 100 divided by six. On all such runs, passenger and freight, the effect of a change from a basic 8-hour to a 6-hour day would be negligible, and no change in operation, service or expenses would result.

Wage Conference Opens at Chicago

Railroads propose that 10 per cent reduction be made "indeterminate" at opening of negotiations

A PROPOSAL seeking an indeterminate extension of the 10 per cent wage reduction now in effect and due to expire on February 1, 1933, was made by W. F. Thiehoff, general manager of the Chicago, Burlington & Quincy, and spokesman for the railroads, at the opening of the wage conference at Chicago on December 12, when 21 presidents of labor organizations and their 1,500 chairmen and a committee representing the railroads met to discuss railway wages. Those representing the railroads during these negotiations are Mr. Thiehoff, W. M. Jeffers, executive vice-president of the Union Pacific, J. T. Gillick, vice-president of the Chicago, Milwaukee, St. Paul & Pacific, W. J. Jenks, operating vice-president of the Norfolk & Western, P. R. Albright, vice-president of the Atlantic Coast Line, C. D. Mackay, assistant to the vice-president of the Southern, J. G. Walber, vice-president of the New York Central, C. W. Galloway, vice-president of the Baltimore & Ohio, and H. A. Enochs, acting chief of personnel of the Pennsylvania. Those representing the employees include the presidents of the 21 labor organizations, with A. F. Whitney, chairman of the Railway Labor Executives Association, acting as spokesman.

At the morning session, Mr. Thiehoff stated, "It has seemed to us that the interest of the railroad industry, its employees and the general public can be best served in this emergency by continuing in effect this 10 per cent reduction, subject to change and pursuant to the revisions of the Railway Labor Act and that any further changes in wages as necessity may require, be made through the orderly process of law. It simply is not in the picture for the railroads after January 31 to be burdened with an automatic 11 per cent increase in wages.

"We believe that it is imperative that some action be taken now to avoid the emergency which otherwise would arise on the 31st of January, and that you should agree with us to continue in effect the 10 per cent deduction arrangement after that date until it is changed upon the notice and in the manner provided in the Railway Labor Act.

"What we are proposing is that this deadline date of January 31, 1933, be wiped out by mutual agreement between us, and that when any further change is made, it shall be made according to the order of the process of law after calm deliberation instead of having action forced on one side or the other by virtue of the fixed expiration date."

Previous to the meeting on December 11, Mr. Whitney made public a statement in behalf of the Railway Executives Association as follows: "We desire to make it clear that we are not entering into any negotiations concerning any reduction in wage rates or concerning any additional deduction from pay checks. We have been authorized solely to negotiate upon the proposal made by the managements on October 14, and that is the only subject which we will negotiate.

Railroads Give Reasons

Following Mr. Thiehoff's statement at the morning session, the railway representatives were asked to give evidence of the necessity for the continuation of the 10 per cent deduction. Response to this request was made at the afternoon session by Mr. Thiehoff, who said, "After having made our suggestion this morning as to what we thought would be an appropriate method of continuing in effect the present status in the face of this emergency, you asked that we give you our reasons. We were much surprised at this request, since the present conditions of the railroad industry are matters of common knowledge and great national concern.

"The situation of the American railroads is today far worse than it was a year ago, when this deduction agreement was made. At that time, the situation of the railroads was such that they realized the absolute necessity of the reduction in wages. Business was badly off. In 1931, the year preceding the present deduction agreement, passenger business was the lowest it has been since 1905 and with the exception of 1921, freight business was the lowest since 1915, but bad as the situation was in 1931, the business of the railroads has continued to decline in the present year and they have actually handled 29 per cent less freight than last year, and the passenger business has fallen off 24 per cent more. At this rate of decline, the freight business for the year 1932 will actually be lower than any year in the last quarter of the

century. The situation has become so serious that in the first eight months of the present year the railroads of the country actually fell short of earnings on their fixed charges by $173,800,000. This is a situation which has never existed before in the railroad industry.

"A year ago when this 10 per cent deduction agreement was made, the railroads had earned their fixed charges for the first eight months of 1931 and had an excess above them of $68,700,000. In other words, the net income during the first eight months of the present year is actually 353 per cent less than it was a year ago, when we all knew that the railroad industry required a wage reduction.

"We do not want at this time to go into any detailed figures. We felt a year ago that we faced an emergency. In the light of all the things that have happened since that time, it must be clear to everyone that the railroad industry is in bad need of relief.

"On August 31 of this year, the railroads had 28.4 per cent less cash than they had a year ago, while their loans and bills payable had increased 42.2 per cent. This was exclusive of loans from the Reconstruction Finance Corporation. A further evidence of the precarious condition of the carriers now, is the fact that at the end of August, the current liabilities exceeded the current assets and although this situation improved slightly in September, the latest information shows that the current assets exceed the current liabilities by only 2 per cent.

Income Still Lower

"In 1932, 36 of the 47 Class I railroads with 1,000 miles or more have a lower net income than at any time during the last quarter of the century. The decline in gross revenues during the present depression has been almost five times as great as in any other preceding depression beginning with 1893.

"There are other things that have been happening during the past year that are of interest to railroad managements and railroad employees alike. It has been necessary for the railroads to borrow large sums of money from the Reconstruction Finance Corporation for the purpose of paying interest on their funded debts or taxes and even to pay past due vouchers for wages, supplies, etc. Altogether, the railroads up to October 31, 1932, have borrowed more than $290,000,000 from the Reconstruction Finance Corporation and more than $34,000,000 from the Railroad Credit Corporation. In other words, they were compelled to increase their indebtedness for the purpose of avoiding a whole chain of receiverships. They will have to pay back this money with interest and in addition to that, they face large maturities during the next few years. These maturities for the years 1933 to 1940 aggregate almost $2,000,000,000, and in 1933 alone, they equal almost $300,000,000, quite aside from the borrowing from banks, the Railroad Credit Corporation and the Reconstruction Finance Corporation.

"This is the present picture which confronts those interested in the railroad industry. It is not, however, of interest only to them. Every citizen of the United States is vitally interested in the continued maintenance of the financial integrity of the railroads. Seventy per cent of their bonds are held by life insurance companies, mutual saving banks and other institutions of a public nature. The life insurance companies hold $3,000,000,000 worth of railroad bonds and they have 50,000,000 policy holders. The savings banks with 13,000,000 depositors hold $1,700,000,000 of railroad bonds. Neighborhood, state and national banks, with which we are all doing business, have substantial investments in these bonds and their solvency is dependent upon the prevention of widespread defaults. It is no answer to say that there have been two defaults up to date, as it is only during the current year that the railroads have so completely failed to earn their fixed charges and have been able to avoid defaults in many instances only by the use of borrowed money on short-term loans. In addition to this, they have been compelled to exhaust a large portion of their working capital simply in order to keep going.

"During the 10 years from 1920 to 1929, the railroads averaged something more than $2,000,000,000 a year for maintenance, which includes both maintenance of way and maintenance of equipment. During 1932, they are spending approximately $1,000,000,000, a reduction of more than 50 per cent. Their situation has become so desperate that they have been required to apply every possible economy in their operation and to gage their expenses from the standpoint of what is necessary for safe operation, postponing expenditures necessary to keep pace with current depreciation, wear and tear.

"What we have said has to do wholly with a comparison of the railroad situation as it is today, compared to the railroad situation as it was one year ago when this 10 per cent deduction was agreed upon. We have not said anything about the reductions that have taken place in the cost of living, nor of the reduction in wages throughout all industry, including those engaged in agriculture. We do know that the railroad basic wage rates are today as high as they were in the peak of our prosperity in this country, whereas the farmers, for example, are selling their products at the lowest point in two generations.

"You realize that this conference cannot at this meeting negotiate the matter of basic wage rates and we must take issue with the position suggested this morning that the failure to negotiate basic wage rates a year ago constituted a concession on the part of railroad management that they should not be reduced. Your authority here as we understand it is to negotiate the extension of the present deduction arrangement for such a period and in such a manner as may be agreed upon. We have simply directed your attention to the fact that the conditions in the railroad industry are such that if a 10 per cent deduction in wages was in anywise justified a year ago, there can be no question but that a greater reduction is justified and necessary today."

In reply to Mr. Thiehoff, Mr. Whitney contended that the carriers' proposal was intended to wipe out the agreement and was not a proposal to extend the agreement for any period. "A proposal to cancel the terminating clause of an agreement," he continued, "and leave it subject to termination upon notice of either party could only be described as an extension of the agreement if both parties at the same time indicate their desire to have it extended indefinitely. Your committee, on the contrary, in its statement has indicated its desire to terminate the agreement at the earliest moment. Therefore, to agree to your right of termination is to agree to cancellation."

In reply to Mr. Whitney's objections the railroads submitted a counter proposal on Wednesday to the effect that the present agreement providing for a deduction of 10 per cent from pay checks be continued for a period of six months from its present expiration date on February 1, and thereafter until this deduction agreement shall be changed or cancelled pursuant to the provisions of Section 6 of the Railway Labor Act, it being agreed between the parties that a proposed change or termination of this deduction agreement shall be deemed an intended change affecting rates of pay and shall be governed by all of the provisions in the Railway Labor Act relating to changes in rates of pay. The proposal further provides that it is understood and agreed that no notice of a change in basic rates of pay

and no notice of a change or termination of this deduction agreement shall be given by either party prior to July 1, 1933. Following the submission of this proposal, the conference adjourned until Thursday.

Railroads Meeting Barge Competition

WASHINGTON, D. C.

ADDITIONAL testimony regarding the demoralizing effects of unregulated and subsidized barge transportation on the Mississippi and other rivers, including not only the operations of the government barge line but also those of other barge line companies and barge operations by industrial companies operated on the waterways maintained by the government, was presented by railroad witnesses on December 9 and 10 before the Shannon committee of the House of Representatives, which is investigating various aspects of government competition with private business. Much of the testimony was in rebuttal of earlier statements by waterway advocates charging the railroads with recent efforts to destroy water transportation, largely based on the drastic reductions in rates on petroleum and sugar from New Orleans, which are now under suspension and investigation by the Interstate Commerce Commission, and also the sharp reductions in cotton rates made during the summer which the commission declined to suspend.

The railroads are not seeking to destroy water transportation; they are seeking to prevent their own destruction, the railroad men testified, pointing out that the reduced rates made by the water lines, including confidential rates in some instances, had taken away so much traffic from the railroads and had demoralized marketing conditions to such an extent that the railroads were forced to retaliate with reductions ranging as high as 50 percent, based on heavy carloading requirements, in order to protect themselves and their shippers whose business had been based on rail transportation.

J. R. Bell, commerce counsel for the Southern Pacific, also told the committee that it was entirely unnecessary to expend the money of the taxpayers to develop inland waterways for the benefit of the Middle West because a simple remedy is available consisting only of an amendment of the fourth section of the interstate commerce act to enable the transcontinental railroads to make rates to the terminal markets sufficiently low to enable the Middle West to compete with eastern shippers who have low unregulated rates to the Pacific coast.

Elmer A. Smith, commerce attorney of the Illinois Central, described the situation which led the railroads recently to propose reductions in their rates on sugar and petroleum from New Orleans, which he said they were forced to make to meet the competition of the government barge line and of barges operated by industrial companies themselves on the Mississippi river. After describing the large losses of this traffic suffered by the rail lines he said the Illinois Central believes that if it is permitted to adjust its rates to give its all-rail route an equal opportunity with the water routes it can regain a substantial part of the petroleum traffic that it has lost within the last decade.

Mr. Smith pointed out that the rates are being investigated by the Interstate Commerce Commission before they can become effective and that "the interstate commerce act, in other words, affords to the barge lines a substantial protection against what the barge lines may believe to be unfair competition on the part of the regulated rail lines," while "the rail carriers have no protection whatever against what they may believe to be unfair competition on the part of the water lines." "The Illinois Central," he said, "believes that notwithstanding the disadvantages under which it labors, its costs of transportation are such that it can make rates on petroleum that will not be substantially higher than the water rates and yield it some profit." The water routes maintained by the petroleum refiners themselves, he said, have such advantages over the rail routes in that the waterways are maintained by the government at the expense of the taxpayers that the rail lines have no alternative except to make reductions which will give them a share of the traffic. They cannot protest to the commission against the port-to-port rates of the barge companies because the commission has no jurisdiction and therefore they must be given some leeway to meet this unfair competition.

J. A. Brown, assistant to the vice-president of the Missouri Pacific, described the cotton rate situation in the lower Mississippi Valley, to show that the new carload rate basis established by the railroads during the summer, after the commission had declined to suspend it, was essential for the orderly marketing of the cotton and necessary if the railroads and the interior cotton merchants were to continue in the cotton business. Replying to statements made before the committee that the railroads had initiated rates for the sole purpose of ruining water competition and driving barges off the Mississippi river he showed how, after the railroads had made some rate reductions to meet the competition of barge lines on cotton brought to the river terminals by trucks, the federal barge line last year had made a drastic reduction in its rate for barge-load lots as low as $1 a bale from Memphis to New Orleans. Although this rate was later suspended by order of the War Department similar rates were made by other barges; and the railroads early this year worked out a plan by which they made very low carload rates, based on varying carload minimum weights. After a long conference on this reduction in August the I. C. C. allowed the rates to be made effective.

Mr. Bell said that for fifteen years the railroads have been trying unsuccessfully to obtain authority from the Interstate Commerce Commission to publish reduced rates to the Pacific coast without sacrificing their intermediate rates, as they were allowed to do before the 1920 amendment of the long-and-short-haul clause, but that the commission has in most cases declined to grant such authorization. If such authority were granted, he said, the railroads have sufficient capacity to serve the Middle West without any additional burden upon the taxpayers, and relief so afforded would furnish routes much superior to any waterway. "The railroads have excess capacity that is running to waste just like so much water over the dam," he said.

Mr. Bell added that if the people of Chicago and other middle western cities had had any conception of the "tariff wall" that would be erected between them and the Pacific coast as a result of the Panama canal it would never have been built. When Mr. Bell said he was opposed to all government subsidies a member of the committee asked if the railroads were not in effect being subsidized by the maintenance of rates intended to produce a fair return on their valuation. Mr. Bell replied that as a practical matter rates have not been made with reference to the valuation but that he was trying to point out a way by which the railroads had long been seeking to reduce rates but had been prevented by a "foolish law that ought to be amended or repealed." Repeal of the fourth section would give the Middle West the same advantages as inland waterways so far as the Pacific coast markets are concerned, he said.

Bruce E. Dwinell, general attorney of the Chicago, Rock Island & Pacific, told the committee that whereas it is often complained that the Interstate Commerce Commission unduly favors the railroads, the interstate commerce act, which the commission administers contains provisions under which it is directed to protect water carriers from railroad competition but not the railroads from water competition.

Mr. Dwinell also called attention to the report recently issued by the Chief of Engineers in which the cost of maintaining the channel of the Missouri river (improvements now under way) is estimated at over $2,000,000 a year and presented some statistics to show that estimates made by the Department of Commerce in 1928 as to the traffic that would be moved on the Mississippi river had proved "about 95 per cent wrong."

J. A. Farquharson, national legislative representative of the Brotherhood of Railroad Trainmen, testified before the committee on December 13, expressing the opposition of the railway employees to further expenditures by the government to experiment with and subsidize transportation in competition with that of the railways in such a way as to increase unemployment among the men who have devoted their lives to railway service.

I. C. C. Annual Report

Commission finds outlook hopeful but also looks for more and better receiverships

Part I

WASHINGTON, D. C.

A GUARDEDLY optimistic view of the railroad situation is taken by the Interstate Commerce Commission in its annual report for the year ended October 31, submitted to Congress on December 8. It finds the outlook "definitely hopeful" in view of the "concentrated endeavor to improve the railroad situation which now characterizes all parties in interest," but it says, "the railroads are facing a difficult future," and have "much to contend with," and that the "prospects are not alluring." It does not think much of many of the proposals which have been made for a revision of regulatory legislation, but promises to consider them with an open mind when the "specifications" are presented.

The fall upturn in traffic was said to furnish better reason for believing that the bottom of the decline has been reached than existed for the similar hope entertained last year, and the opinion was expressed that a large part of the drastic reductions in operating expenses can be permanently saved. "Within the next few months," the commission says, "it should be possible to appraise prospects with greater certainty," and to determine whether action "along normal and usual lines" will sufficiently provide for the maintenance of an adequate and efficient national system of transportation, "without resort to extraordinary measures."

While the commission believes that a change for the better in fundamental conditions will come, it says, "it may well be that it will not come fast enough to enable some railroads, burdened by a heavy load of fixed charges, to avoid receiverships and reorganizations." Therefore, the one important new recommendation made in this year's report is that Congress give consideration to ways and means of improving the procedure now followed in railroad receiverships and reorganizations "with a view to legislation intended to reduce the time and expense involved and to facilitate voluntary financial reorganizations." The fourteen other recommendations to Congress are substanially those which have been contained in previous annual reports.

Last year's recommendations for a revision of Section 15a and repeal of the recapture clause are repeated, as well as those for regulation of bus transportation, that permits be required for truck operation, and that consideration be given to regulation of port-to-port rates of water carriers, and the commission says that the competitive transportation situation should receive immediate attention. It renews its recommendation that Congress provide for an impartial and authoritative investigation of various phases of this subject. However, it declined to express views on the subject of giving the railroads a freer hand in meeting outside competition "until such modifications of the law are definitely sought," although it takes occasion to remark that the drift of the present situation "seems to be toward rate chaos," and in several ways indicates that it was fully aware of the details of the legislative program submitted by the railway executives to the Coolidge committee which was made public on the same day as the commission's report.

"If the railroads believe that they are subjected to unduly burdensome and restrictive regulation," the commission says, "the sound course to pursue is to ask the appropriate authorities for definite relief," but it said it could not consider the subject effectively until the specifications are presented. Mild comments on several of the various proposals are, however, scattered through the report and the commission points to several inconsistencies which it sees in some of the criticisms of regulatory policies. It also calls attention to the fact that although the railroads a year ago were asking higher rates they have in the past few months been flooding the commission with reductions to meet competition, and that "Charges for railway services are still on the pre-depression level, except where bargain fares or special reductions in freight rates to meet competition have been put in force, while wholesale prices have fallen to about two-thirds of their 1926 level."

A condensation of the more general parts of the report follows:

Grounds for Encouragement

In our last annual report we discussed the railroad future, which was then causing most serious concern to the country. It is causing even more concern now than then. The statistics of railroad earnings shown elsewhere furnish the reason. It was thought in the latter part of 1931 that the bottom had been reached in the decline of traffic, but there has been a further severe decline in 1932, with the result that in the 12 months ended with September of this year the railroads in the aggregate fell considerably short of earning their fixed charges, notwithstanding drastic cuts in expense which include a curtailment in maintenance expenditures which can not with safety be continued indefinitely.

In the midst of this gloom there are at least three important grounds for encouragement which merit emphasis:

(1) This fall there was an upturn in traffic which furnishes better reason for believing that the bottom of the decline has been reached than existed for the similar hope which was entertained last year.

(2) The railroads have been in general surprisingly successful in reducing their operating expenses in a ratio reasonably close to the reduction in operating revenues. In 1929, which was a very good railroad year, the operating ratio of Class I railroads (including switching and terminal companies) was 71.7 per cent. In the 12 months ended with September, 1932, it was 78.1 per cent, although the 10 per cent reduction in wages was applicable to only 7 months of that period. Much of the expense thus saved will reappear as traffic returns, but there is good reason to believe that a large part of it can be permanently saved. Dire necessity for cutting expense always brings to light opportunities in this direction which are overlooked in more prosperous times, and there is no doubt that many railroads were spending money rather lavishly prior to the depression. Among the opportunities which are being seized is the abandonment of branch lines which no longer have a sufficient traffic reason for existence. Some competent authorities have estimated that when no more than half of the traffic which has been lost since 1929 is recovered, the railroads will be able to earn the same net income as then. Perhaps this estimate is too optimistic, but it is probably not too remote from the mark.

(3) More or less aimless concern over the future of the railroads is rapidly being replaced by intensive study directed towards ways and means of improving the situation. An illustration is the committee of eminent men who have recently undertaken such a study at the request of fiduciary institutions which are large holders of railroad securities. The results of this study, which is under most capable direction, are bound to be of value. Associations of shippers and other business organizations are at work on the problem, and so is railroad labor. Finally, the railroads are clearly approaching an effective realization of the fact that they must avoid the waste in revenues and expenses which has resulted from undue and unwise competition with one another, join in research, and act in comparative unison for the improvement of the conditions which surround their industry, not only of the conditions for which they may believe the government to be responsible but also of the conditions which are immediately related to their own initiative, enterprise, and ability to cooperate for mutual advantage. Not only that, but there is reason to believe that this spirit is beginning to spread over the entire transportation industry, and that efforts have or will be made to bring the various rival transportation agencies into some measure of agreement upon a common program, to the end that there may be a greater degree of coordination of service and a lesser degree of wasteful and destructive competition.

It is well recognized that the first and foremost cause of present railroad troubles is lack of traffic, due to present economic conditions. The remedy is recovery of business generally. No power can make the railroads prosperous when the country is in the depths of depression. But there are secondary causes which appear to be more susceptible of effective treatment.

Much can be done to improve the competitive transportation situation and it should receive immediate attention. In another part of this report our views on that subject are given, but for sake of emphasis they will be restated here in briefer form.

Methods for Improving Competition Situation

A. No rival transportation agency should be given an unfair advantage over the railroads by virtue of subsidies or otherwise at public expense. But notwithstanding the vigor with which this principle has been asserted on behalf of the railroads, there is no adequate information as to the extent to which such a situation exists nor do we know of any comprehensive and definite plan for its cure. The subject demands a thorough investigation under authority of the Congress. We so recommended a year ago and adhere to that recommendation. The problem is principally, although not wholly, one of taxation. A study of this character has recently been made in England under the auspices of the British Ministry of Transport by a conference of representatives of railroad and motor transportation with an independent chairman.

B. Need exists for the protection of public safety and convenience in the use of the highways by regulations governing the size and weight of motor vehicles and lading and other like regulations. This matter is now being handled solely by the states. Perhaps it should there remain, but interstate as well as intrastate operations are affected. We believe the subject is of prime importance, and that need exists for a thorough investigation under authority of the Congress to determine whether federal intervention is required in the interest of uniformity in regulations and their effective enforcement. We so recommended a year ago and adhere to that recommendation.

C. Since 1928 we have recommended legislation providing for the regulation of interstate operations of carriers of passengers by motor vehicle, including the granting of certificates of convenience and necessity as a prerequisite to operation and comprehensive regulation of charges, practices, service, and accounting. At the last session of the Congress we recommended, with respect to interstate transportation for hire of property by motor vehicle, that permits for operation be required, but that for the present no conditions be imposed in the granting of such permits, except provision of liability insurance and the keeping of such records and the making of such reports as we may require. We offered this latter recommendation as a first step, deferring further steps in the regulation of motor trucks until what is practicable and wise can be determined in the light of actual experience with regulation and more adequate information. We renew these recommendations. The matter has been so exhaustively considered at Congressional hearings that speedy action should be possible.

D. It may be that port-to-port rates of water carriers engaged in interstate commerce should be subjected to regulation. We have not investigated this subject, but are convinced that it merits the serious consideration of the Congress.

E. Railroads now can and do engage extensively in water and motor transportation. The federal law prohibits them, however, from acquiring competing lines. If the railroads wish this prohibition removed, they should so request the Congress without further delay. Until the reasons for such a change have been fully presented, we have no opinion to express upon it. However, coordination of the services performed by the various transportation agencies and the avoidance of wasteful and destructive competition are matters of paramount importance.

F. Suggestions are rapidly gaining currency that unless and until competing transportation agencies are publicly regulated to the same extent as the railroads, the latter should be given practically a free hand in meeting such competition. Apparently the thought is to effect this result by relieving the railroads, with respect to such competitive rates, from the obligation to give notice (now 30 days or such less time as we may permit) of changes in rates, from our power to suspend rate changes for investigation, from the provisions of section 4 of the act, and from our power to fix minimum rates. Until such modifications of the law are definitely sought, we shall not undertake to express views upon them. It is of utmost importance to industry that the rates charged for transportation should be known to all, uniformly applied, free from undue preference or prejudice, and stable. The experience of the past proves beyond question that the rate chaos which is the inevitable result of free and unregulated competition in transportation is destructive in its long-run effects and of possible advantage only to shippers and communities big enough to extort the largest concessions from the warring competitors. Nothing could be done which would foster monopolies as effectually as a removal of the safeguards of competition. At the present time the rate situation lies between these extremes of the desirable and the undesirable, but the drift seems to be toward rate chaos. It is essential to the general welfare that this drift be checked and reversed.

So much for the competitive transportation situation. We regard it of prime importance for immediate attention. There are, however, other things which can be done at once to improve the railroad situation. One is the repeal of the recapture provisions of section 15a of the act, which we have recommended for the past two years and which is elsewhere discussed in this report. Another is the substitution for the present rate-making rule of section 15a of a new and better rule.

Railroads Urged to Specify Objectionable Regulation

From various sources there is now constant reiteration of the charge that the railroads are "shackled" by unduly burdensome and restrictive regulation. For the most part this charge is made in general terms without specification of particulars. So couched, the attack is not helpful. If the railroads believe that they are subjected to unduly burdensome and restrictive regulation, the sound course to pursue is to ask the appropriate authorities for definite relief, specifying precisely what they deem to be objectionable. So far as the federal regulation for which we are responsible is concerned, we are prepared to consider this subject with an open mind in the light of such knowledge and experience as we have gained, but we can not consider it effectively until the specifications have been presented. Much said on this subject, emanating to a very considerable extent from non-railroad sources, is loose and ill-informed. We believe that it can be shown, and that the railroads will largely agree, that much of the regulation now imposed is of benefit both to the country generally and to the railroads themselves.

With respect to immediate financial relief for the railroads, much has been done during the year by the Reconstruction Finance Corporation and the Railroad Credit Corporation, both of which are discussed elsewhere in this report. Such aid as they

have given, however, is inherently of an emergency and temporary character. It has prevented receiverships which otherwise would have occurred, but relief through the lending of money can not be indefinitely efficacious in the absence of a change in fundamental conditions. While we believe that such a change for the better will come, it may well be that it will not come fast enough to enable some railroads, burdened by a heavy load of fixed charges, to avoid receiverships and reorganizations. As elsewhere indicated, we believe that the Congress should give consideration to ways and means of improving the procedure now followed in railroad receiverships and reorganizations, which have often in the past been a source of undue and unreasonable expense and unnecessary burden upon security holders.

At the time of our last annual report, the railroads were seeking to augment their revenues through increases in rates. The tide has apparently turned in the other direction and our tariff files have been flooded in the past few months with reductions in rates, through which the railroads seek to augment their revenues by the more effective meeting of competition. We have generally interposed no obstacles to such reductions and have facilitated them. When such changes have been suspended for investigation, other railroads have frequently been protestants. The carriers have not abandoned efforts to augment revenues by increases in rates. They have the additional problem of endeavoring to conserve their traffic and revenue therefrom. In these efforts, they are now directing their attention toward particular forms of traffic.

Railway Earnings

The drastic decline in revenues and income in 1932 has intensified the seriousness of the condition of railway finances. The operating revenues of Class I railways for the first 9 months of 1932 were under those of the same period in 1931 by 27.91 per cent, of 1930 by 42.11 per cent, and of 1929 by 50.56 per cent. The revenues of 1932 include the increases resulting from the rate advances allowed by Ex parte 103, *Fifteen Per Cent Case, 1931*. The credits to freight revenue from this source for the first 9 months of 1932 amounted to $46,813,497, an increase of 2.65 per cent above the amount of the freight revenue excluding the increase. The following table of percentages of decline in revenues in each month of 1932 from the corresponding month of 1931, January to September, is of interest because for freight revenue the percentage for September is lower than for any month since February.

Operating revenues of Class I railways: Per cent of decline, 1932 under 1931

Month	Total	Freight	Passenger	Other
January	24.77	24.75	28.72	18.99
February	20.63	20.26	27.06	14.38
March	22.92	22.75	27.04	19.02
April	27.57	26.70	34.40	25.58
May	30.97	31.37	33.31	25.23
June	33.42	33.89	35.95	26.40
July	36.92	38.01	34.92	31.02
August	30.82	30.36	36.17	26.96
September	22.21	20.57	31.89	22.46

If the operating Class I roads are grouped in systems, the number of systems having deficits after fixed charges for the first 8 months of 1932 is 78 and their aggregate deficit is $208,257,840. In 71 cases Class I roads failed to cover operating expenses, taxes, and joint facility and equipment rents. If grouped into systems, this number falls to 37.

The Fifteen Per Cent Case, 1931

In our original report in the *Fifteen Per Cent Case, 1931*, we estimated that the specific increases which we approved would "produce between one hundred million and one hundred twenty-five million dollars increased revenue on the basis of present traffic if applied both state and interstate." This estimate was approximately correct on the basis of the then "present traffic." The increases, however, are not likely to produce for the year more than $75,000,000, and may fall considerably short of that sum, due principally to the sharp decline in traffic since our estimate was made, and to a much lesser extent to the fact that they have not been uniformly applied intrastate.

As a matter of fact, the actual receipts of the Railroad Credit Corporation from the increases are to some extent misleading because in numerous instances the basic rates have been reduced since the surcharges were applied, so that the total charges are less than they were before such application. In our supplemental report, the carriers were relieved from the condition that if rates were reduced, the reductions should be taken from the basic rates, leaving the surcharges in effect and available for pooling purposes. Nevertheless in most instances they have failed to avail themselves of that relief and have acted as if the condition were still in force. We make no criticism of this; on the contrary it is to the carriers' credit and has helped to relieve the financial emergency of the weaker railroads. The fact is, however, that to a considerable extent the carriers have been unable to maintain rates at even the slightly increased level which we approved, with the result that the surcharge revenues in part do not represent actual increases in total carrier receipts.

These reductions in the basic rates were made necessary chiefly by motor-truck or water-carrier competition. In recent months there has been a veritable flood of such reductions. Less than two years ago the burden of the carriers' complaint was that we were continually "whittling away" rates or denying increases. We are now confronted with a new criticism, to the effect that we do not permit reductions in rates on short enough notice and now and then suspended them for investigation. The basis of this criticism is that if reductions are at all delayed, competitors will capture the traffic and, once having captured it, will retain it. It is pertinent to remark that these are the same carriers which sought to increase all of their rates 15 per cent regardless of competitive conditions, and upon the theory that if this resulted in the diversion of traffic to competitors it could easily be regained by subsequent reductions.

Our records show that the present criticism, like the very different one which preceded it, is not justified to any substantial degree. More important is the fact that the carriers now plainly perceive that present-day conditions do not permit of wholesale treatment of rates. They must be dealt with individually. Some must be reduced and others can and may fairly be increased. We endeavored to point this out as early as 1926, in *Revenues in Western District*, when the carriers in that district were seeking an increase of 5 per cent in all their freight rates.

It is likely that present-day competition in the transportation industry will require not only changes in forms and methods of railroad service but also very considerable changes in railroad rate structures, including those which we have prescribed and which were well adapted to the conditions which then existed but are not so well adapted to the conditions now prevailing. In this necessary process of change, it is of vital importance to avoid a degeneration into rate chaos, and to proceed with caution and foresight, rather than with panic.

The Railroad Credit Corporation

The Railroad Credit Corporation has prevented defaults by carriers which would have entailed serious consequences, not only to the carriers, but to savings banks, insurance companies, fiduciaries, etc., with their depositors, policyholders, and dependents.

From these statements it appears that as of October 31, 1932, the corporation's receipts of revenues from the emergency rate increases amounted to $40,847,002.89, and its total loans to carriers $34,376,219. Of this amount, $16,064,942.50, or approximately 47 per cent, consisted of loans taken over from the Reconstruction Finance Corporation.

An extension of the surcharges and their collection and distribution through this corporation is a question for early consideration.

The Reconstruction Finance Corporation Act

During the first three months after the act became effective 50 applications were filed by carriers, for loans aggregating $394,154,708.83. and during the same period we approved loans upon these applications aggregating $108,975,797. Prior to November 1, 1932, we certified our approval of loans to 69 carriers aggregating $346,829,179.

The principal purposes for which loans have been approved and the total amount for each purpose are as follows:

Bond interest	$68,815,734
Bond maturities	54,144,460
Additions and betterments	53,964,007
Short-term maturities	40,702,413
Bank loans	39,803,100
Equipment trust maturities	21,829,181
Taxes	20,467,204
Audited vouchers	14,080,492
Equipment trust interest	5,115,054
Preferential claims	6,986,742
Rentals	7,050,059

[An abstract of the remaining portions of the Interstate Commerce Commission's annual report will be published in an early issue of the *Railway Age*.—EDITOR.]

SLEEPING CAR PASSENGERS arriving at the North station, Boston, Mass., from Portland, Me., northern Maine, the Maritime provinces and other Canadian points via the Boston & Maine, may now remain in the cars until 8.30 a. m., instead of 7.30, as formerly.

Western Class Rate Case Re-Opened

WESTERN class rates, which have been a subject of contention since 1925, are again receiving consideration at a hearing which began at Chicago on December 7 before Examiners Koebel and Paulson of the Interstate Commerce Commission. In response to petitions filed by the Western Trunk Line and Official Classification territories railroads and others, the Interstate Commerce Commission on October 28 ordered the re-opening of the Western Trunk Line's class rate case, Docket 17000, Part 2, and Ex Parte 87, Sub. No. 1, in which its general revision became effective on December 3, 1931, for further hearing for the purpose of bringing the record up to date, particularly with reference to the interterritorial rates between the East and West which were reduced. This case is an outgrowth of the one in which the western roads sought relief through a general five per cent increase in 1925. After the commission had denied the general increase, the roads asked for a revision of class rates and the commission, in 1930, prescribed a general revision on the basis of mileage scales, which included increases on the short hauls and reductions on the long hauls and the interterritorial rates between the East and West. It estimated that the net result would be an increase in revenues, but the railroads have found it difficult to obtain the benefit of the increases, because of truck competition. At the same time, their revenues have been reduced on the longer hauls. At the Chicago hearing, it was indicated that further hearings will be held at Minneapolis, Minn., and Kansas City, Mo., in January, these to be followed by a final hearing at Chicago.

At the Chicago hearing, the carriers proposed a revision of the scales prescribed by the commission, such revisions to apply to distances of 500 miles and more, and a re-establishing of combination rates for interterritorial movement between Official Territory and Western Trunk Line Territory. No changes in the scales for distances less than 500 miles were proposed, the increase in the rates for distances in excess of that being calculated to restore to the railroads the approximate revenue that was taken from them by the decision of the commission. The principle of making interterritorial rates on the basis of combinations on the territorial gateways was displaced in the commission's decision, which took effect December 3, 1931, by a system of through overhead rates. The proposal of the carriers is that the rates be returned to the combination basis, with the addition that Western Trunk Line factors be equalized on all gateways on the basis of the lowest rate applicable via any of the gateways.

In a preliminary statement on behalf of all Western Trunk Line carriers, Wallace T. Hughes, general attorney of the Chicago, Rock Island & Pacific, said, "As for the interterritorial rates prescribed between Official and Western Trunk Line territories, these respondents are concerned, not only because of the effect of their low levels upon carrier revenues, but also because of the disadvantage to which they subject middle western industries in competition with eastern producers. They have no disposition whatever to establish a rate structure that will place any arbitrary handicap upon eastern producers in reaching western markets; on the other hand, they are interested profoundly in having a rate structure that will permit middle western industries to have a fair opportunity with their eastern competitors in their own markets."

The need for increased revenues in the western territory was demonstrated by W. E. Wettling, statistician for the western railroads, whose testimony brought the record up to date in respect to the carriers' revenues and financial condition. He showed that the property investments of railroads in the western district have increased from $9,269,822,458 in 1921 to $10,972,294,944 in 1931, which amount, if figured on the Ex Parte 74 findings, would amount to only $9,900,117,770. The total operating revenues in these years dropped from $2,177,542,429 to $1,579,402,357, and total operating expenses from $1,738,947,826 to $1,190,975,227, thus causing net railway operating income to decrease from $278,793,100 to $208,834,144, a rate of return on the total property investment of 1.91 per cent in 1931, as compared with 3.01 per cent in 1921. During the first nine months of 1932, he said, the net railway operating income of the railroads comprising the three groups of the Western Trunk Line territory amounted to 14.80 per cent of that in 1929 and 17.02 per cent of the income during the same period of 1928.

His figures on freight traffic density showed that in the Western Trunk Line territory, where the average mileage operated in 1931 was 68,832, the tons carried one mile per mile of line decreased from 1,276,903 in 1926 to 953,140 in 1931, while for the United States, where the average miles operated in 1931 amounted to 240,615, the tons handled one mile per mile of line only decreased from 1,875,304 in 1926 to 1,285,490 in 1931.

E. B. Boyd, chairman of the Western Trunk Line Committee, testified that difficulties had arisen as a result of the overhead rates prescribed by the commission, such difficulties being particularly acute at border points, where shippers and receivers on the eastern side of the dividing line had the benefit of the lower Official Classification, while shippers and receivers immediately west of the line must pay charges based on the Western Classification, on movement to and from the East. He contended that restoration of the combination method of computing rates would largely overcome such difficulties.

Further testimony for the western lines was presented by J. E. Davis, assistant to the freight traffic manager of the Union Pacific, J. G. Morrison, general freight agent of the Northern Pacific, and P. B. Beidelman, freight traffic manager of the Great Northern, who showed that the rate structure west of the Western Trunk Line Territory would be jeopardized unless the rates to the western parts of that territory, as required by the commission, were substantially increased. Those now in effect are largely those approved or fixed by the commission.

Following the introduction of proposals by the Eastern carriers, the meeting was resolved into an informal conference to discuss the nature of the information which the commission wished the railroads to furnish at a future hearing. On December 13, the Chicago hearing adjourned and will reconvene at Minneapolis at a date to be set later.

THE SIMPLEST AND MOST WIDELY AVAILABLE Christmas holiday travel arrangements ever offered by the Great Western of Great Britain will be put in effect by that company this year. Restriction of all types have been almost entirely eliminated; third-class Christmas holiday tickets at excursion rates of one penny (two cents) per mile, good for the outward journey from December 22 to 26, inclusive, and for the return from December 24 to January 9, also inclusive, will be issued throughout the entire system, and will be accepted on any train, subject only to a minimum fare of approximately 60 cents.

NEWS

Railways Would Continue Ex Parte 103 Surcharges

Extension of increases without pooling requirement sought in petition to I. C. C.

A petition asking the Interstate Commerce Commission to continue after March 31, 1933, the temporary emergency surcharge increase in freight rates which the commission authorized last year in the fifteen per cent rate case, effective January 4, without any requirement that any part of the revenue derived therefrom shall be pooled or paid over by the carrier receiving them for the benefit of any other carrier, was filed on December 10 by the Association of Railway Executives.

During the past year the revenues derived from the surcharge have been turned over to the Railroad Credit Corporation, which has made loans from the proceeds to railroads failing to earn their interest charges. For the coming year the railroads estimate that "in no event likely to happen will the amount of the earnings of the roads which would be subject to be paid over for the use of other roads under the existing plan be substantial enough to justify a continuance of that plan."

Whereas the commission, on the basis of 1931 traffic, estimated that the increase in rates would yield from $100,000,000 to $125,000,000 a year, the actual yield for this year is now estimated at only about $60,000,000, which is far less than enough to take care of the unearned fixed charges, and the petition shows that of the 162 Class I roads and large switching and terminal companies, only 32 would be earning their fixed charges if the same conditions continue as prevailed in the first eight months of 1932. The results attained this year, they say, were accomplished only by deferring a substantial amount of maintenance, and if $5,941,843 were allowed for additional maintenance there would remain, of the amount earned by these 32 carriers, only $5,307,257 to be administered in accordance with the existing plan. The amount here calculated for maintenance represents the difference in maintenance ratio between the first eight months of 1932 and an average of the same period for 1929, 1930, and 1931. It is submitted that no carrier whose net income, including the revenues derived by it from the emergency rates, is not sufficient to pay its fixed charges, should be required to pay over any sum for the relief of another carrier not earning its fixed charges.

"While there are indications that conditions are improving," the petition says, "and it is hoped that they will continue to improve, it is believed that for some time in the future they will not improve to the extent of changing substantially the conditions above set out," which are recited for the purpose of bringing to the attention of the commission the urgent need which exists for increased revenues.

The commission in its annual report said that the credits to freight revenue from this source for the first nine months of 1932 amounted to an increase of 2.65 per cent but that in numerous instances the basic rates had been reduced to meet competition, leaving the surcharges in effect.

Rail-Motor Competition To Be Discussed at Automobile Show

"Rail-Motor Competition" is one of the subjects to be discussed in connection with the International Day program on January 9, 1933, at the National Automobile Show in New York. The International Day program has been planned to afford automotive leaders from abroad an opportunity to review automotive conditions in their respective countries.

Period For R. F. C. Loans Extended One Year

President Hoover on December 8 issued a proclamation extending for one year, from January 22, 1933, the period during which the Reconstruction Finance Corporation may make loans under the provisions of Section 5 of the act creating the corporation. This is the section under which loans have been made to railroads, banks, and financial institutions.

Employees to Contribute to C. P. R. Pension Fund

The Canadian Pacific, beginning with 1933, will put its pensions on a contributory basis. Heretofore the entire burden has been borne by the railway. According to a statement made by E. W. Beatty, K.C., chairman and president of the system, the plan will be under the administration of a board of trustees upon which the employees will be represented. Previously the employees have had no say in the matter.

Reduction in Appropriation for Mail Transportation Proposed

An appropriation of $100,000,000 for inland transportation of mails by railroad routes is proposed in the bill carrying appropriations for the Postoffice department for the fiscal year ending June 30, 1934, as reported to the House by the appropriations committee. This is a decrease of $15,000,000 as compared with the appropriation for 1933 and is $5,000,000 less than the estimate of the Budget Bureau for 1934.

Bill Would Facilitate Railway Reorganizations

Proposal is designed to avoid delay, expense and difficulties of receiverships

While outside of Washington the air is full of plans for straightening out the mixed-up transportation situation and improving the condition of the railways, and while there are also some plans of that kind on paper in Washington, the leaders in Congress have so far displayed very little interest in the matter and no definite plans for taking up railway legislation have been made in either the House or Senate committees on interstate commerce.

However, although in the two weeks that Congress has been in session there have been no indications of intention to act on any of the proposals intended to help the railways to earn their interest and other fixed charges, there is at least a movement on foot to enable some of the companies to reduce their fixed charges, which would probably assume considerable importance if Congress should fail to liberalize the security requirements of the Reconstruction Finance Corporation act to enable them to borrow money for that purpose next year as they have this year. With a prospect of more railway receiverships next year consideration is now being given to a plan to avert some of them by providing a method of voluntary financial reorganization without receivership for companies that have reached a stage that ordinarily would mean receivership. Even the prospects of such legislation, which would mean an amendment of the federal bankruptcy laws, are of course uncertain, and in the present state of affairs, when such subjects as beer, government salaries, appropriations and taxes are in the foreground, it is difficult to get Congress to concentrate on any other controversial legislation long enough to do anything about it.

The solicitor general of the United States, counsel for the railways, and certain members of the Senate judiciary committee have been engaged on the preparation of a bill designed to facilitate the reorganization of corporations, including railways, in such a way as to avoid much of the delay, expense, and difficulty ordinarily involved in receivership procedure due to the opportunities afforded by present laws for obstructive tactics on the part of minorities. The need for legislation to facilitate voluntary financial reorganization of a company in difficulties was emphasized by the Interstate Commerce Commission in its

(*Continued on page 923*)

Court-Martial of Ashburn Suggested by F. J. Lisman

Latter also submits to Hurley an analysis of Inland Waterway Corporation's 1931 report

F. J. Lisman, chairman of the Lisman Corporation, New York, has filed with Secretary of War Hurley a critical analysis of the Inland Waterway Corporation's report for 1931, accompanying such analysis with a suggestion that court-martial proceedings be instituted against the corporation's chairman, Major General T. Q. Ashburn. Mr. Lisman made this latter suggestion on the following allegations:

1.—General Ashburn has apparently habitually, purposely or through ignorance, misled the Secretary of War and the people of the United States whom he calls his "stockholders" by wrongfully stating the net results of his corporation.
2.—He has filed with the Interstate Commerce Commission report that he was charging a certain percentage on all his property for depreciation when, as a matter of fact, the figures show this has not been done.
3.—The employees of his organization have abused the franking privilege * * * *
4.—He is guilty of conduct unbecoming a gentleman and officer * * * *

The third allegation Mr. Lisman accompanied by an exhibit consisting of an announcement calling attention to an address to be delivered by a representative of the Inland Waterways Corporation. This announcement, Mr. Lisman declared, was sent through the mails under government frank. The "conduct unbecoming a gentleman and officer" charge is based on newspaper interviews concerning Mr. Lisman which the latter alleges were given out by General Ashburn.

The analysis discusses first the history of inland waterway transportation and then proceeds to a detailed consideration of the Inland Waterway Corporation's 1931 statement which Mr. Lisman, in his summary calls a "10,000-word document, full of smug self-praise, quibbles, half-truths, sophistries and evasions, issued every year at government expense, which purports to be an annual report," but which is "far from being anything which the Secretary of War can point to with pride."

On the subject of stimulating private operations on the waterways, for example, it is not clear to Mr. Lisman how the Inland Waterways Corporation "aided and established an oil fleet on the Warrior River" when the Corporation "has not handled, up to this time, gasoline and other oil in bulk" on that river. In like manner other statements are subjected to scrutiny, such as the comments on municipal terminals, the net income and depreciation charges. Mr. Lisman then lists a number of free federal services and government donations which, he says, the Inland Waterways Corporation receives and then proceeds to restate the 1931 income account "on a fair basis, and disregarding entirely expenses incurred for maintenance of channels."

The net income account so restated is presented by Mr. Lisman to show a total 1931 deficit for the Inland Waterways Corporation of $2,434,442.29, which, he continues to say, "just about offsets alleged savings to the public" which were set up in the Inland Waterway Corporation treasurer's report for 1928 as $2,702,200.

Wage Statistics For September

Class I railways reported to the Interstate Commerce Commission a total of 1,010,440 employees as of the middle of the month of September. The total compensation was $119,098,627. Compared with the returns for the corresponding month of last year there was a decrease in the number of employees of 243,834 or 19.44 per cent. The total compensation shows a decrease of $51,544,801 or 30.21 per cent. The total hours of employment per working day was 4.5 per cent greater in September than in August, the reverse of the relation between September and August which existed in 1931 and 1930.

Massachusetts Commission Requires Flagman on Light Locomotives

The Massachusetts State Department of Public Utilities has dismissed the petition of the Boston & Maine asking permission to run light locomotives without a flagman, on those portions of its lines where centralized traffic control is in effect. By an order of the department, all locomotives run without train for a distance of ten miles or more must have one man besides the engineman and fireman. The present order says that the centralized traffic control system must be used a longer time before the department will be warranted in modifying its rule.

Two Heavy Trains Consolidated

The Chicago, Burlington & Quincy, as a means of reducing passenger train miles, is running the Empire Builder and the North Coast Limited (scheduled to leave Chicago at 10:45 p. m. and 10:30 p. m., respectively) as one train to the Twin Cities. From the Twin Cities to Seattle, Tacoma and Portland the Empire Builder runs over the Great Northern, while the North Coast Limited goes over the Northern Pacific. Eastbound, the trains are combined at the Twin Cities and operated as one into Chicago. If either train is 25 minutes late or if there are more than 18 cars, each train is run separately.

New Jersey Approves Increased Fares

The New Jersey Board of Public Utilities will not interfere with the tariffs of the Erie announcing increased rates for commutation tickets to and from New York City, which are to go into effect on January 1. Attention is called to the fact that the intrastate traffic affected by these tariffs is only about one per cent of the total traffic, the other 99 per cent being interstate between New Jersey and New York; and as long as the Interstate Commerce Commission takes no action, it is held that a suspension of the tariff within New Jersey would entail confusion and cause the railroad company added expense.

The order stipulates, however, that the Erie must make provision on the tickets, or in other convenient form, for refunding promptly the difference which may result between the increased fares and fares that may finally be established as just and reasonable.

Southern Merchandises Train Travel Bargains

Skillful advertising methods employed to sell reduced-rate passenger service

The Southern, having announced for the Christmas season the "Lowest holiday railway and Pullman fares ever made," is now giving these travel bargains wide publicity through the distribution of appropriately designed passenger traffic advertising literature. Among this latter is the "envelope-filler" announcement printed in green and red and bordered with holly. It calls the reduced fares "A sign of the times" and invites prospective patrons to "Spend Christmas and New Years at home."

Then there is another larger circular or "flyer," also in color, which wishes patrons a "Merry Christmas" and a "Happy New Year" and assures them that there need be "No home-sickness this Christmas!" as it extends the Southern's invitation to "Take a train ride at the lowest holiday fares ever offered."

Two classes of reduced rate tickets are being offered with concessions varying in accordance with the periods of validity. Round-trip tickets, offered at a 33 1/3 per cent reduction, are valid for an outbound journey from December 14 to 25, inclusive, with a return limit of January 9, 1933. Other tickets may be purchased at a 46 per cent reduction for an outbound trip between December 23 and 26, inclusive, the return journey to be made on December 27. Also, at 46 per cent reduction round-trip tickets for the New Year holiday will be sold on December 30 and 31 and on January 1 and 2, 1933, with a return limit of January 3.

All tickets involved in the foregoing will be good on all trains and also in Pullman cars on payment of reduced Pullman charges which have been arranged as a part of the program. The Pullman rate concession will amount to 25 per cent.

The Southern is also distributing other passenger traffic literature calling attention to travel bargains which it regularly offers.

These latter include: The week-end trip affording a 40 per cent fare reduction on round-trip tickets which are on sale each Friday, Saturday and Sunday with Tuesday, midnight as the return limit; the Sunday trip at a one-cent-per-mile rate (coaches only) for distances up to 150 miles; Winter excursion tickets with a 19-day time limit at a reduction of 25 per cent; reduced one-way coach fares between certain points; reduced round-trip fares, involving, for distances up to 150 miles, a rate concession of 33 1/3 per cent for journeys of two days duration and of 25 per cent for six-day trips.

Finally there are the multiple trip tickets, good only in coaches which the Southern offers at an average rate of 2½ cents per mile on a 10-trip ticket; 2 cents per mile on a 20-trip ticket and 1.8 cents per mile on a 30-trip ticket.

Proposed Restriction on Cotton Suspended

The Interstate Commerce Commission has suspended, until July 10, 1933, the operation of certain schedules as published in a St. Louis Southwestern supplement to southwestern lines freight tariff proposing to apply a new rule in connection with cotton transited which would restrict the movement via coastwise steamers. The proposed rule would forbid concentration and/or transit except where joint through rates are in effect with the coastwise steamship lines.

Club Meetings

The North West Car Men's Association, (St. Paul) will hold its next meeting on Wednesday evening, January 4, 1933, at the Y. M. C. A. Gymnasium, Minnesota Transfer. The Association will discuss the changes, which go into effect next month, in the A. R. A. Rules of Interchange.

The Toronto (Ont.) Railway Club will hold its next meeting on Friday evening, January 6, 1933, at the Royal York Hotel, Toronto. M. J. Gormley, executive vice-president of the American Railway Association, will speak on the case of the railroads versus other means of transportation.

The Indianapolis (Ind.) Car Inspection Association will hold its next meeting on Monday evening, January 9, 1933, at Hotel Severin, Indianapolis. The Association will discuss the new Interchange rules of the American Railway Association.

Employee Takes Over B. & M. Bus Route

The consent of the Public Service Commission of New York has been given for the transfer of a certificate for a bus route between Troy, N. Y., and Hoosick Falls from the Boston & Maine Transportation Company of New York to Harold Gardner.

The Boston & Maine Transportation Company, subsidiary of the Boston & Maine, established the bus line to take the place of certain trains which the parent railroad discontinued. Since its establishment the bus route has operated at a continuous loss and the company proposed to discontinue the service. Harold Gardner to whom the certificate is transferred has operated the bus line as an employee of the Boston & Maine Transportation Company for the past 2½ years. He believes there is enough business to warrant further operation and proposes to operate two round trips each week-day.

The consideration for the transfer of the certificate was $1 but the approval of the transfer by the commission is not a determination by the commission of the value of any property transferred.

P. R. R. Inaugurates Electric Service Between New York and New Brunswick

Electric train service on the Pennsylvania between New York and New Brunswick, N. J., was inaugurated on December 9, thus marking another step towards completion of the electrification of the eastern section of the railroad. The initial New-York Brunswick service consisted of three electric trains in each direction, with the number being gradually increased during the current week until the entire local schedule of trains between the two cities is operated under electric power.

The only remaining stretch of track that is not now electrified is that from New Brunswick to Trenton; work on this section is progressing according to plans which call for placing electric service in effect between New York and Philadelphia on February 1, 1933. So far, 47 electric locomotives have been received and are being tried out for regular service. When the entire line is under electric operation, 56 of these locomotives will be required to handle through trains. Local trains will be made up of multiple-unit cars of the same type now in use in the Philadelphia district and on the Long Island.

Bill Would Facilitate Railway Reorganizations

(*Continued from page 921*)

annual report to Congress last week and it now appears that some efforts in that direction have been going on for some time.

The matter was discussed by Alfred P. Thom, general counsel of the Association of Railway Executives, in his testimony before the National Transportation Committee last week at New York and the statement filed with the same committee on behalf of the American Short Line Railroad Association included an endorsement of Senate Bill 4921 introduced in the Senate last June by Senator Hastings, a member of the judiciary committee, as an amendment to the uniform bankruptcy act. The annual report recently submitted to Congress by Attorney General Mitchell also emphasized the importance of developing a more simple process for corporate reorganization in bankruptcy, stating that it should be considered as emergency legislation and considered prior to the general revision of the bankruptcy laws which has long been under consideration.

The Hastings bill provided that a corporation, including any railroad corporation, may file a petition, or, before adjudication in an involuntary proceeding, an answer, stating that the corporation is insolvent or unable to meet its debts as they mature and that it desires to effect a plan of reorganization. The court, on approving such a petition, would not enter an order of adjudication in bankruptcy but would temporarily appoint a trustee or trustees of the debtor's estate. A plan of reorganization could then be proposed, after its approval by not less than 25 per cent of the creditors, and could be confirmed upon its acceptance by two-thirds in amount of the creditors.

The Senate committee on interstate commerce met on December 13 but made no plans for considering transportation bills and it is reported that Chairman Couzens is planning to subordinate other bills in an effort to put through a bill for the regulation of holding companies. The House committee on interstate and foreign commerce plans to meet early in January to consider its program. While it would be willing to press the bus and recapture bills it is understood to believe that such a course would be futile without some prospect of action in the Senate. It has announced a hearing on January 3 on the Shallenberger full crew bill.

Canadian Lines to Co-operate More Closely

In order to discuss plans for the fullest possible co-operation between the Canadian Pacific and the Canadian National, the executive committees of the respective boards of directors held a joint meeting this week in Montreal. Announcement of the meeting, which was made jointly by E. W. Beatty and S. J. Hungerford, chief executives of the two systems, follows:

"The executive officers of the Canadian Pacific and the Canadian National, with the approval of their respective boards of directors, have in the past co-operated to a certain extent in effecting economies in operation and in other ways where uniform action appeared desirable. Believing that because of the necessity for the utmost economy in the operation of the railways this policy of co-operation should be carried forward to the fullest possible extent, the executive committee of the respective boards of directors met in the board room of the C. P. R., Windsor street. The policy of further co-operation between the two railway companies was agreed upon and it was decided to appoint a joint committee to formulate plans for carrying it out."

Fast Train for Congressmen

Beginning on December 12, the Pennsylvania will run a special train from New York to Washington on Monday mornings for the accommodation of Congressmen and others who wish to be at the Capitol when Congress convenes. The train will leave New York at 7:20 a.m. and run through in 4 hours, 25 minutes (51+ miles an hour). Passengers will leave Broad Street station, Philadelphia, in a shuttle train at 9:05. In the two holiday weeks the train will run on Tuesday instead of Monday.

Division of "Reshipping Rates" on Grain From Peoria

The Supreme Court of the United States, reversing the federal district court for northern Illinois, has taken jurisdiction of a suit by the Alton to set aside part of an order of the Interstate Commerce Commission approving certain divisions of joint "reshipping" rates for grain and grain products from Peoria to points east which had, in 1929, been reduced by the connecting lines, without the sanction of the Commission, and over the protest of the Alton as to payments to the Alton. The Commission did not suggest that the reduced allowances received by the Alton were compensatory for the haul. It justified its conclusion that the divisions were not "unjust, unreasonable, or otherwise unlawful" on the ground that the transportation service for performance of which the Alton sought increased divisions were not of importance to the public; and that if it wished to participate in the transportation and was dissatisfied with the share allotted, it should secure in some way allowances from the carriers which bring the grain into Peoria.

The Supreme Court holds that the order, while negative in form, was, in effect, an affirmative one, equivalent to an approval of unlawful divisions effected by the car-

riers; and that the district court should take jurisdiction of the Alton's suit to enjoin the order as denying it a constitutional right.—Alton v. United States, Interstate Commerce Commission, B. & O. et. al. Decided December 5, 1932. Opinion by Justice Brandeis.

Railroads Seek to Prevent Delivery of Cars to Seatrain

The Hoboken Manufacturers' Railroad has asked the Interstate Commerce Commission, by means of an emergency car service order, to suspend the operation of an American Railway Association car service rule which provides that "cars of railroad ownership must not be delivered to a steamship, ferry, or barge line for water transportation without permission of its owners filed with the Car Service Division." The railroad company stated that this rule represents an unlawful agreement upon the part of the railroads to prevent the carriage of freight by the Seatrain Lines, Inc., with which it is affiliated.

Hearings in connection with the Interstate Commerce Commission's investigation of the operations of the Seatrain company were resumed at Washington this week. A number of shippers were introduced who testified as to advantages which they would derive from the company's service.

The House committee on appropriations, in reporting the appropriation bill for the Treasury and Postoffice departments, has omitted the amount of $120,400 for the company's ocean mail contract, payment of which has been suspended because the company has engaged in coastwise service between New York and New Orleans in addition to the contemplated foreign service to and from Havana.

Railway Officers Advocate Beer Bill

Testimony to the effect that legalization of beer might mean an increase in traffic for the railroads of $80,000,000 to $100,000,000 a year was presented by Owen T. Cull, general freight agent of the Chicago, Milwaukee, St. Paul & Pacific at a hearing before the House ways and means committee on December 8, on bills proposing a modification of the Volstead act. Mr. Cull appeared with Samuel F. Miller, freight traffic manager of the Chicago & North Western, and F. A. Adams, assistant freight traffic manager of the Chicago, Rock Island & Pacific, and presented a brief statement which he said was on behalf of all the railroads of the United States. He estimated that the Milwaukee road would benefit immediately from the beer traffic to the extent of from $2,000,000 to $2,500,000 a year and that the railroads as a whole would derive traffic amounting to $50,000,000 a year, including inbound movement of supplies to the breweries, etc., in addition to perhaps $30,000,000 a year more on the materials entering into the construction and equipment required to re-establish breweries. "The first year should mean to the railroads of the United States about $80,000,000 a year," he said, adding that "it is really a $100,000,000 proposition as far as the railroads are concerned; that is, we have that potential possibility." He said the railroads were hopeful of getting about 70 per cent of the beer traffic and that they will put in a rate to meet truck competition that will save most of the movement between Milwaukee and Chicago.

Boston & Maine Plans for Winter Sports Season

Plans for popularizing winter sports in northern New England communities on a much extended scale have been formulated by the Boston & Maine, according to a 20-page booklet, now being issued by that railroad, announcing a new series of Sunday and week-end scenic and sporting special trains to be operated from Boston during the coming winter in addition to the regular Sunday "Snow Trains."

The new special trains are scheduled for Sunday, January 29, to Franconia Notch, N. H.; and February 5, through Crawford Notch, N. H., to Fabyan, with a week-end special to Littleton, N. H., leaving Boston on Saturday, February 11, and returning on the following day.

Lower fares will prevail this winter on the "Snow Trains," which will be operated out of Boston on every Sunday when snow conditions are good, just as in the past two years. The minimum fare will be $1.75, round trip, and the maximum lower than last year, no matter how far north the train may have to run in order to drop its passengers where winter sports conditions are good. As its part in further extending the popularity of winter sports in New England, the New York, New Haven & Hartford will establish a connection from Providence, R. I., with the "Snow Train," with a round-trip fare between Providence and Boston of $1. This extension of the "Snow Train" will make available fast service from Providence to northern New England points on days when the trains are operated. If proper snow conditions are available, the first of these Sunday sports specials will be run on January 1.

Reorganization of Government Activities

President Hoover on December 9 submitted to Congress a series of executive orders providing for a consolidation and reorganization of 58 executive agencies and parts of agencies in the federal government, which, under the provisions of the law enacted on June 30, will become effective unless specifically disapproved by Congress within 60 days. The orders establish a new Merchant Marine Division in the Department of Commerce under an Assistant Secretary of Commerce to bring together all activities of the federal government that have to do with the protection and development of the American merchant marine. To this is to be transferred the Inland Waterways Corporation, now under the War Department and the United States Shipping Board Merchant Fleet Corporation.

There is also established a new Division of Public Works in the Department of the Interior, under the direction of one of the present assistant secretaries, to which is transferred, among other activities, the Bureau of Public Roads, now in the Department of Agriculture, and the principal non-military activities administered under the direction or supervision of the Chief of Engineers of the Army, including rivers and harbors work and the duties, functions and powers of the Mississippi River Commission, the Joint Board of Engineers for the St. Lawrence River Waterway, the Board of Engineers for Rivers and Harbors, and the Interoceanic Canal Board.

The commissions and boards will serve in an advisory capacity to the Secretary of the Interior.

Railroads Offer Special Holiday Rates

Drastic reductions in passenger fares for the benefit of Christmas and New Year travelers will be put into effect during the coming holiday season by railroads serving all sections of the country, according to various announcements recently made public.

Bargains in railroad fares in the West for the Christmas holidays will include a 60 per cent cut in coach fares, a 50 per cent cut in first-class fares and a 25 per cent cut in sleeping car rates. These reduced passenger fares, the lowest for several years, have been placed in effect to attract passengers during the depression and have been made even more attractive by the added reductions in sleeping car fares.

Following the success of reduced sleeping car fares during the Thanksgiving period, the Pullman Company is making a more general application of reduced rates during the approaching holidays. Under the holiday schedules, the round-trip fare in Pullman accommodations will equal one and one-half the regular one-way rate.

Railroads in Eastern Trunk Line Territory will put into effect a 33 1/3 per cent reduction in round-trip passenger fares over the Christmas season. These rates will extend from December 22 to January 15 and will be good on any train and apply to every station on the various lines in Eastern territory. Opportunity will thus be afforded, easier than ever, those who want to spend the coming holidays at home.

Other Christmas travelers whose time is more limited may take advantage of the present low week-end rates (45 per cent round-trip reduction) that have been in effect for some time, which extend for the going trip from Friday noon to Saturday midnight, and the returning trip until Monday midnight.

In New England, the New York, New Haven & Hartford is continuing to offer the special reduced rate week-end tickets which it introduced last summer.

A variety of greatly reduced round-trip passenger fares, good on all trains between all stations on its lines and to stations on other railroads in the south, southwest, west and other sections of the country, will be offered by the Norfolk & Western. Tickets at one and one-third the one-way fare will be sold for all stations on the N. & W. between December 14 and 25, inclusive. They will have a final return limit of January 15. During the same period, the railway will offer reduced fares on the same basis from all stations on its lines to stations on other

railroads in the south, southwest and west, with a final return limit of January 9.

Reduced round-trip fares between stations on the N. & W. are also authorized for the periods December 23 to 26, inclusive, with a return limit of December 27; and for December 30 to January 2, inclusive with a return limit of January 3. On the same dates round-trip fares will be sold from stations on the railroad to points on other lines south of Washington and east of the Mississippi river. These fares will be offered on the basis of one-way fare plus 25 cents for the round-trip.

From December 15 to 17, inclusive, and from December 20 to 25, the Norfolk & Western will sell reduced passenger fares from stations on its line to destinations north of Washington and to the central West. These reduced rates, which will be sold at one and one-third the one-way fare, will have a final return limit of January 15.

The railroad also announced reduced Pullman fares to many stations.

An article describing methods used by the Southern in advertising its special holiday rates is published elsewhere in this issue of *Railway Age*.

J. M. Davis Condemns St. Lawrence Waterway Plan

Discussing the proposed St. Lawrence seaway, J. M. Davis, president of the Delaware, Lackawanna & Western, said on November 20 that the taxpayer, who had the most at stake because he would have to dig up the money to pay for the job, must have been overlooked.

"The cost of this project has been estimated at from half-a-billion dollars up; interest charges, maintenance and operation at 40 million dollars annually, or 109 thousand 589 dollars a day," said Mr. Davis.

"Experience shows that the actual cost of great waterway projects runs far ahead of estimates. It was estimated that the cost of the Panama canal would not exceed 160 million dollars, but the actual cost was about 375 million dollars. The cost of the Welland canal was about 128 million dollars, although it was thought that it could be built for 50 million dollars. The final cost of the Great Lakes-St. Lawrence deep waterway may approach and in fact exceed one billion dollars.

"If the treaty is approved," he continued, "it will mean, in effect, the creation of a commercial subsidy of unproven necessity or benefit, which promises to increase the present burden of debt and taxation out of all proportion to the value which may come from it.

"The capacity of our present transportation facilities is far in excess of current usage and apparently more than sufficient to meet prospective needs, hence it would seem to be both unnecessary and unjust to impose this unwarranted hardship on taxpayers and business generally through the expenditure of funds derived from taxes obtained from an already greatly over-taxed public.

"The time to think about and then act in this matter," Mr. Davis concluded, "is before and not after the money is spent."

Equipment and Supplies

LOCOMOTIVES

HILL & SUENDER, INC., has ordered one geared locomotive from the Heisler Locomotive Works.

FREIGHT CARS

THE CHICAGO GREAT WESTERN is inquiring for 30 underframes.

THE READING COMPANY has placed orders for 700 tons of plate steel for car repair work.

THE WHEELING & LAKE ERIE placed an order recently for 50 steel gondola cars of 70 tons' capacity with the Canton Car Company.

CANADIAN NATIONAL.—Plans are being made to build in the shops of the Eastern Car Company, New Glasgow, Nova Scotia, 500 gondola cars of 70 tons' capacity for the Canadian National.

THE FERROCARRIL AL PACIFICO, Costa Rica, has given an order for 50 single-sheathed box cars of 23 tons' capacity to the Gregg Company, Ltd. Inquiry for this equipment was reported in the *Railway Age* of October 1. During this year the railroad built 9 stock cars, 2 caboose cars and 2 passenger cars in its own shops.

PASSENGER CARS

THE TEXAS & PACIFIC has ordered one gas-electric rail motor car and one trailer car from the E. G. Budd Manufacturing Company. The motor car will have an American LaFrance 400-h.p. gas engine and Westinghouse electrical equipment.

IRON AND STEEL

THE NEW YORK CENTRAL is inquiring for 125 tons of steel for a bridge at Poughkeepsie, N. Y.

SIGNALING

PENNSYLVANIA.—The Interstate Commerce Commission has granted this company's petition that the requirements of the commission's automatic train control orders be modified to permit operation of locomotives equipped with automatic cab signals, in lieu of automatic train-control devices.

CHICAGO, BURLINGTON & QUINCY.—The Interstate Commerce Commission has suspended until further order the requirements of its orders of 1922 and 1924 which required the company to maintain and operate automatic train-stop or train-control devices on its line between Creston, Iowa, and Lincoln, Neb.

MISCELLANEOUS

NEW YORK CENTRAL.—Bids will be received until 12 o'clock noon, December 29, by W. C. Bower, vice-president, New York, for steel wheels required by the New York Central lines during the first quarter of 1933. Bids will be received on December 27, by C. C. Warne, purchasing agent, New York, for the New York Central Railroad's requirements of steel bars, steel shapes, steel plates, etc., for the first quarter of 1933.

Supply Trade

Walter Harnischfeger, vice-president of the **Harnischfeger Corporation,** Milwaukee, Wis., has been elected president and has been succeeded by **Donald B. Patterson,** general sales manager.

OBITUARY

Joseph E. Batchelder, who retired as vice-president of the Fairbanks-Morse Water Supply Company in 1931, died in Chicago of heart failure on December 12.

George P. Baldwin, a vice-president of the General Electric Company, died on December 7 at Doctors' Hospital, New York. Mr. Baldwin was born on January 22, 1874, at San Francisco, Cal. He was graduated from Leland Stanford University in 1896 with the A. B. degree. The following year he entered the employ of the Stanley Electric Manufacturing Company which in 1903 was bought by the General Electric Company. At that time, Mr. Baldwin became vice-president of the

George P. Baldwin

Blaisdell Company of Los Angeles, where he remained until March, 1910, when he was appointed manager of the Pittsburgh office of the General Electric Company. He was appointed manager of the Atlantic district with headquarters at Philadelphia, Pa., in December, 1915, and when the merchandising department was created in 1923, he was made its first manager. Mr. Baldwin remained in this position until December, 1925, when he was elected a vice-president, in charge of activities connected with the electrification of steam railroads and such other duties as were assigned to him by the president.

Construction

CANADIAN PACIFIC.—This road plans to construct a combination frame passenger station, freight house and fruit warehouse at Port Haney, B. C., in the near future to replace structures that were recently destroyed by fire.

GULF, COLORADO & SANTA FE.—An agreement has recently been reached between this company and the United States Government for the construction of a bridge to carry the railroad's tracks across the Intracoastal canal at Mud Bayou, Tex., between Beaumont and Galveston, in which the government has agreed to undertake the complete construction of the bridge. Plans for the structure, which will have a span of 100 ft., have not been completed.

ILLINOIS CENTRAL.—A contract has been awarded to the Railroad Water & Coal Handling Company, Chicago, for the installation of a water softening plant at this company's laundry at Thirteenth Street, Chicago.

NEW YORK CENTRAL.—As part of its general West Side improvement program, this company has awarded to John Lowry, Inc., New York, a contract covering the construction of both the substructure and the superstructure of a two-track viaduct between the south line of Bank street and the north line of Bethune street, all in New York City. An interesting feature of this contract is that the viaduct and the trains to be operated upon it will pass through the building occupied by the Bell Telephone Laboratories, making it necessary for both present construction and future operation to be carried on without interfering with the telephone company's research work.

TORONTO, HAMILTON & BUFFALO.—Work is now under way on construction of this company's new $330,000 passenger station and office building at Hamilton, Ont. Foundations are being placed by the Dominion Construction Corporation, Ltd., Hamilton, while the general contract for construction of the building itself has been awarded to W. H. Cooper, also of Hamilton. Subcontracts for excavation work and fabrication of structural steel have been let, respectively, to A. Cope & Sons and the Hamilton Bridge Company, both located at Hamilton. Sub-track facilities will be installed by railroad company forces under the direction of the engineering department. The new building, which will be of modern design, is located between John and James streets, near the present T., H. & B. station. When completed, it will have a total ground area of 186 ft. by 55 ft., with a smaller central portion consisting of seven stories and a basement. Passenger station facilities will occupy the first, or street, floor and part of the second, or track level, floor, while the remainder of the building will be given over to the general offices of the railway company. Service, express and customs facilities will be located either in the main building or adjacent thereto. The construction of the combined station and office building marks the final step in the general improvement program inaugurated at Hamilton by the Toronto, Hamilton & Buffalo several years ago, which included in its earlier phases elevation of the railway's tracks for a distance of about one mile through the city, and elimination of a number of grade crossings, contracts for that work (now completed) being reported in the *Railway Age* of April 18, 1931, page 787. The entire program has been carried out under the direct supervision of R. L. Latham, chief engineer, Toronto, Hamilton & Buffalo.

Financial

ALABAMA GREAT SOUTHERN.—*Bonds.*—The Interstate Commerce Commission has authorized this company to procure the authentication and delivery of $500,000 of first consolidated mortgage 5 per cent, series A, bonds in partial reimbursement for capital expenditures.

BUFFALO, ROCHESTER & PITTSBURGH.—*Tentative Recapture Report.*—Division 1 of the Interstate Commerce Commission has issued a tentative recapture report finding that this company earned $655,120 in excess of 6 per cent on its valuation for the last four months of 1920.

DENVER & SALT LAKE WESTERN.—*Stock.*—The Interstate Commerce Commission has authorized this company to issue $3,850,000 of capital stock to be sold at par and the proceeds used for the construction of the company's Dotsero Cut-off, and to assume liability as guarantor for $300,000 of interest on notes of the Denver & Rio Grande Western to the Reconstruction Finance Corporation during construction of the cut-off. The Denver & Rio Grande Western has been authorized to assume liability as guarantor for the payment of dividends on the capital stock of the Denver & Salt Lake Western at the rate of 5 per cent, following the completion of the cut-off. The commission has denied the application of the Denver & Salt Lake Western to guarantee payment of dividends on its stock following the completion of the cut-off and that of the Denver & Rio Grande Western to guarantee interest during construction on its notes to the Reconstruction Finance Corporation.

DETROIT & TOLEDO SHORE LINE.—*Tentative Recapture Report.*—Division 1 of the Interstate Commerce Commission has issued a tentative recapture report finding that this company earned $3,831,724 in excess of 6 per cent on its valuation for the years 1920 to 1927 inclusive.

MAINE CENTRAL.—*Bonds.*—The Interstate Commerce Commission has authorized this company and the European & North American to procure jointly the authentication and delivery of $1,000,000 of 5 per cent first mortgage bonds.

MISSOURI PACIFIC. — *Abandonment.* — This company has applied to the Interstate Commerce Commission for authority to abandon 40 miles of branch line from Fredonia, Kan., to Peru Junction and 5.7 miles from Halley, Ark., to Dermott.

NEW YORK CENTRAL.—*Acquisition of Chicago, Attica & Southern.*—This company has applied to the Interstate Commerce Commission for a rehearing in the case in which the commission found that its acquisition of the Chicago, Attica & Southern at a commercial value of $165,000 would be in the public interest.

NEW YORK, CHICAGO & ST. LOUIS.—*R. F. C. Loan.*—The Interstate Commerce Commission has issued a report recommending that the Reconstruction Finance Corporation advance $5,600,000 of the loan heretofore approved to this company, for the purpose of paying in cash 25 per cent of the 3-year 6 per cent unsecured notes which matured on October 1, to the Federal Reserve Bank of New York or other government agency, to be disbursed from time to time to the Guaranty Trust Company as it presents evidence of the deposit of the notes under the plan. When substantially all of the noteholders have accepted the plan the Finance Corporation may provide for the unconditional advance to the company of the remainder of the loan of $5,600,000. The company had asked that the loan be made immediately available, stating that 82 per cent of the notes had been deposited under the plan and that the advance would expedite the deposit of the remaining notes.

NORTHWESTERN PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon 17.6 miles of its Point Reyes branch and 7.2 miles of its Guernersville branch in California.

SAN ANTONIO SOUTHERN.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of its railroad extending southerly from a point near Jourdanton, Tex., to Christian, 9.6 miles.

SEABOARD AIR LINE.—*Abandonment.*—This company and its receivers have been authorized by the Interstate Commerce Commission to abandon a branch line extending from its Tampa-West Lake Wales main line to Royster Mine, 3.4 miles.

TEXAS, OKLAHOMA & EASTERN.—*R. F. C. Loan.*—This company has withdrawn its application to the Reconstruction Finance Corporation for a loan of $217,477, on which the Interstate Commerce Commission approved a loan of only $108,740, and the application has been dismissed.

TOWNSVILLE.—*R. F. C. Loan Denied.*—In the *Railway Age* of November 12 it was erroneously reported that the Interstate Commerce Commission had approved a loan of $32,000 to this company from the Reconstruction Finance Corporation, whereas the commission had denied approval of the application.

Dividends Declared

Albany & Susquehanna.—Special, $2.00, payable January 7 to holders of record December 15.

Greene Railroad.—$3.00, semi-annually, payable December 19 to holders of record December 14.

Average Prices of Stocks and of Bonds

	Dec. 13	Last week	Last year
Average price of 20 representative railway stocks..	24.63	24.20	30.48
Average price of 20 representative railway bonds..	57.19	55.61	60.04

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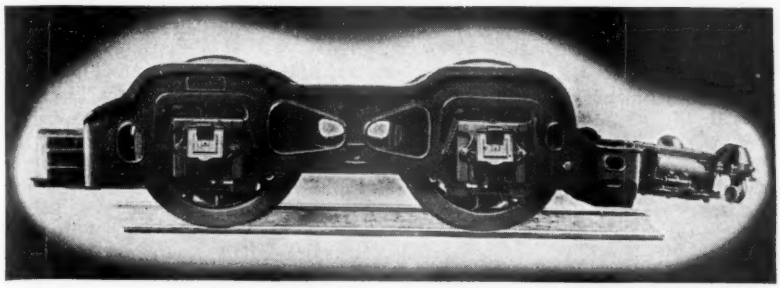
THE BOOSTER



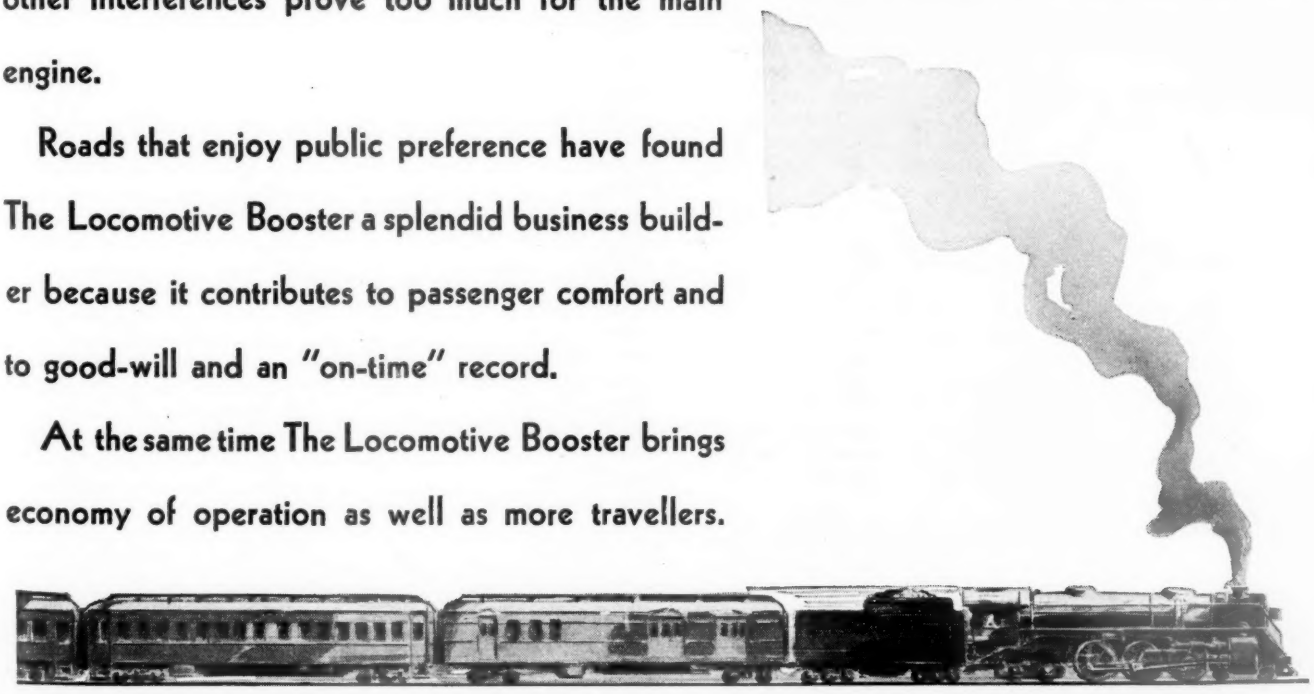
IS A BUSINESS BUILDER

Rough handling quickly destroys the favorable effect of luxurious appointments and other investments designed to build passenger business. It spoils the good work of your traffic men.

Locomotive Boosters give passenger engines the needed extra power to start heavy trains easily and to keep them moving when grades, bad rail and other interferences prove too much for the main engine.

Roads that enjoy public preference have found The Locomotive Booster a splendid business builder because it contributes to passenger comfort and to good-will and an "on-time" record.

At the same time The Locomotive Booster brings economy of operation as well as more travellers.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Railway Officers

EXECUTIVE

C. G. Bowker, general manager of the Grand Trunk Western, with headquarters at Detroit, Mich., has been elected to the newly-created position of vice-president and general manager.

Philip J. Watson, Jr., general superintendent of the Kansas City Terminal, Kansas City, Mo., has been elected also president to succeed **William M. Corbett,** deceased.

C. W. Brecht, assistant to the vice-president, operation and maintenance, of the New York, Chicago & St. Louis, has been appointed to the newly-created position of executive assistant, with headquarters as before at Cleveland, Ohio, and will report to the vice-president, operation and maintenance, and to the president. The position of assistant to the vice-president has been abolished.

Harry A. Worcester, resident vice-president of the New York Central, with headquarters at Cincinnati, Ohio, retired on November 30, after 47 years of almost continuous service with the New York Central and its subsidiaries. Mr. Worcester, who will continue to hold the position of president of the Cincinnati Union Terminal, was born on November 18, 1862, at Albany, N. Y., and graduated from Yale University in 1884. In the following year he began railway service with the New York Central & Hudson River (now the N. Y. C.) as an assistant station master, serving in this position until 1890, when he went with the Lake Shore & Michigan Southern (now also a part of the N. Y. C.) as a clerk at Buffalo, N. Y. Subsequently, Mr. Worcester was advanced through the positions of assistant trainmaster and division superintendent, and in May, 1905, he went with the Michigan Central as assistant general superintendent, being advanced to general superintendent in December of the same year. A year later he returned to the Lake Shore & Michigan Southern as general superintendent, and shortly thereafter he was promoted to assistant general manager of the Cleveland, Cincinnati, Chicago & St. Louis, where he was further promoted to general manager in 1913. Three years later he was appointed vice-president and general manager, and from 1918 to 1920 he served as district director of the Ohio-Indiana district of the United States Railroad Administration. On the termination of government control of the railroads, Mr. Worcester was elected vice-president in charge of operations of the Big Four at Cincinnati, which position he held until 1930, when he relinquished active management and was appointed resident vice-president at Cincinnati for the New York Central.

Harry A. Worcester

FINANCIAL, LEGAL AND ACCOUNTING

Robert D. Morrison, deputy secretary of the Canadian Pacific in London, England, will retire from office on December 31, after a service of 47 years. Mr. Morrison became connected with the C. P. R. as clerk in the deputy secretary's office in 1886, being appointed assistant to the deputy secretary in 1901, and deputy secretary in 1906. **Edward Tremayne,** registrar of transfers, will assume Mr. Morrison's duties in addition to his own.

OPERATING

T. H. Meeks, assistant to the general manager of the Southern Pacific lines in Texas, with headquarters at Houston, Tex., has been appointed assistant superintendent of the Houston division, with headquarters at the same point, to succeed **H. L. Bell,** who has been transferred to the Dallas and Austin divisions, with headquarters at Ennis, Tex., and Austin. **H. F. Kelly,** assistant superintendent of the Austin division, with headquarters at Austin, has been transferred to the San Antonio division, with headquarters at San Antonio, Tex., succeeding **F. H. Bednark.**

TRAFFIC

William R. Schroeder has been appointed general agent of the Alabama, Tennessee & Northern, with headquarters at Louisville, Ky.

M. H. Dorsett, assistant general freight agent of the Atlantic Coast Line, has been appointed assistant freight traffic manager, with headquarters at Tampa, Fla., as before. **W. M. Wharton** has been appointed assistant general passenger agent, with headquarters at Jacksonville, Fla.

The general freight department and the general passenger department of the Quebec Central have been consolidated and **J. T. Hawkins,** formerly general freight agent, has been appointed general freight and passenger agent. **W. E. A. Brooks,** general passenger agent, has been appointed assistant general freight and passenger agent. Both will have headquarters as before at Sherbrooke, Que.

O. N. Spain, assistant general passenger agent of the Chesapeake & Ohio, with headquarters at Richmond, Va., has been appointed general passenger agent at that point with direct supervision over development of through passenger traffic, tours and excursions. **C. B. Kincaid,** district passenger agent at Philadelphia, Pa., has been appointed assistant general passenger agent in charge of solicitation, tours and excursions, with headquarters at Cincinnati, Ohio.

Eugene Mock, who has been appointed executive assistant in the traffic department of the Missouri Pacific, with jurisdiction over all freight and passenger traffic matters of the system, has a record of 37 years of almost continuous service in various departments of a number of railways. He was born on May 17, 1878, at Coatesville, Mo., and entered railway service on June 1, 1895, as a telegraph operator on the Keokuk & Western (now part of the Chicago, Burlington & Quincy), at Cambria, Iowa. Three years later he entered the accounting department of the Burlington, where he served until January, 1901, when he went with the accounting department of the St. Joseph & Grand Island (now part of the Union Pacific), at St. Joseph, Mo. Four months later he left this road to go with the Chicago, Rock Island & Pacific, where he served in the traffic department until 1902, when he became auditor of the St. Louis & Gulf (now part of the St. Louis-San Francisco). Two years later Mr. Mock became chief clerk to the traffic manager of the Midland Valley, with headquarters at Ft. Smith, Ark., which position he held until 1907, when he left railway service to become traffic manager of the Oklahoma Coal Operators' Association, at McAlester, Okla. In 1911 he returned to the Midland Valley as general freight and passenger agent at Muskogee, Okla., being advanced to traffic manager of this road in 1916. Four years later he entered the service of the Missouri Pacific as assistant general freight agent at St. Louis, Mo., being promoted to general freight agent at the same point in 1924. In 1927 he was further advanced to assistant freight traffic manager, which position he continued to hold until his recent appointment.

Eugene Mock

Harrell R. Wilson, general freight and passenger agent on the Missouri Pacific at

Little Rock, Ark., who has been promoted to assistant freight traffic manager, with headquarters at St. Louis, Mo., was born on November 23, 1886, at Oliver, Tenn., and entered railway service in 1906 as cashier in the freight office of the Illinois

Harrell R. Wilson

Central at Durant, Miss. A year later he was appointed assistant city ticket agent at Memphis, Tenn., and in 1908 he left the Illinois Central to go with the Mississippi Central as chief clerk to the general freight agent and traveling freight agent at Hattiesburg, Miss. Four years later Mr. Wilson went with the New Orleans Great Northern as general agent at Jackson, Miss., but returned to the Mississippi Central at Hattiesburg in 1913 as general freight agent, subsequently being promoted to traffic manager. In 1925 he entered the service of the Missouri Pacific as assistant general freight agent at St. Louis, being appointed general freight agent at Little Rock in 1927. In 1931 Mr. Wilson was appointed assistant general freight and passenger agent at Little Rock, which position he continued to hold until his recent promotion.

Norton England, who has been appointed general freight and passenger agent on the Missouri Pacific, with headquarters at Little Rock, Ark., as noted in the *Railway Age* of November 26, was born on September 4, 1881, at Mobile, Ala. His first railway service was with the Mobile & Ohio and the Missouri-Kansas-Texas in various capacities, and in April, 1905, he went with the Missouri Pacific in the freight claim department at St. Louis, Mo. Two years later he was transferred to the freight traffic department at St. Louis, where he held various positions until 1909, when he was sent to Memphis, Tenn., as traveling freight agent. Later in the same year, Mr. England went to Atlanta, Ga., to open a commercial office for the Missouri Pacific, and early in 1910 he was transferred to Greensboro, N. C. Two years later he was appointed general agent in the freight department at Birmingham, Ala., and in 1914 he was advanced to general southeastern agent at the same point. After two years Mr. England was appointed general agent at New Orleans, La., and during the World War he served as inland traffic representative in charge of port activities at Newport News, Va. In 1919, he returned to the Missouri Pacific as division freight agent at New Orleans, where he was promoted to assistant general freight agent in 1920, which position he continued to hold until his recent appointment as general freight and passenger agent at Little Rock.

Harvey M. Johnson, general freight and passenger agent on the Missouri Pacific at Kansas City, Mo., who has been promoted to assistant freight traffic manager at St. Louis, Mo., was born at East St. Louis, Ill., on May 22, 1894. Prior to entering railway service in 1917 he served for several years with the Southern Freight Association at St. Louis in various capacities from tariff clerk to chief clerk. He entered railway service with the Missouri Pacific as a clerk in the freight traffic department, and in 1920 he was advanced to chief clerk to the foreign freight agent, then being promoted through the positions of traveling foreign freight agent, assistant

Harvey M. Johnson

foreign freight agent and foreign freight agent. In 1929 Mr. Johnson was appointed general freight agent at Kansas City, which position he continued to hold until 1931, when his title was changed to general freight and passenger agent.

Charles E. Hall, assistant western traffic manager of the Delaware, Lackawanna & Western, with headquarters at Chicago, has been promoted to western traffic manager with the same headquarters, to succeed **Harry J. Graham,** deceased. Mr. Hall has been in the service of the Lackawanna almost continuously since 1904. He was born in 1880, in Harrison county, Ohio, and entered railway service in 1896, as a telegraph operator and station agent on the Baltimore & Ohio, going with the Erie a year later as a ticket agent at Marion, Ohio. In 1898, he entered the service of the New York, Chicago & St. Louis in the superintendent's office at Conneat, Ohio, and after a year he was appointed relief agent, being transferred to the traffic department in 1900. In 1902 Mr. Hall was appointed agent at Westfield, N. Y., and two years later he went with the Lackawanna, serving this road as traveling agent at various points until 1912, when he was appointed agent at Seattle, Wash. From 1918 to 1920, during the war period, he occupied a position in the traffic department of the crude rubber department of the Firestone Tire & Rubber Company; at the end of that period he returned to the Lackawanna as

Charles E. Hall

commercial agent at Seattle. In 1929 he was promoted to general agent, with the same headquarters, which position he held until January 1, 1932, when he was sent to Chicago as assistant western traffic manager. He continued to hold this position until his further promotion to western traffic manager, effective December 1.

OBITUARY

Linton E. Lockerby, trainmaster of the Rutland, died at his home in Rutland, Vt., on December 7, after a long illness.

Frederick Bowen Lincoln, formerly general manager of the Erie, died of pneumonia in a hospital at Louisville, Ky., following an operation for appendicitis. Mr. Lincoln was 65 years old.

Oscar P. Chamberlain, president and general manager of the Chicago & Illinois Western until 1924 and until recently president of the Dolese & Shepard Company, Chicago, was killed on December 10 at Chicago when he was struck by an automobile. Mr. Chamberlain had been connected with the engineering departments of various railroads. From 1889 until 1902 he served as a rodman and assistant engineer on the Pennsylvania and in the latter year he went to the Chicago Great Western as an assistant engineer. After two years he was appointed a division engineer on the Northern Pacific, then going to the Chicago & Illinois Western (a subsidiary of the Dolese & Shepard Company), as chief engineer in 1905. In 1919, Mr. Chamberlain was elected president and general manager of the C. & I. W., which position he held until 1924, when operation of this railroad was taken over by the Illinois Central. From 1913 until shortly before his death, with the exception of a period during the World War when he was in the service of the United States Army, Mr. Chamberlain served the Dolese & Shepard Company, first as vice-president and general manager and then as president.

Tables of Revenues and Expenses of Railways begin on second left-hand page

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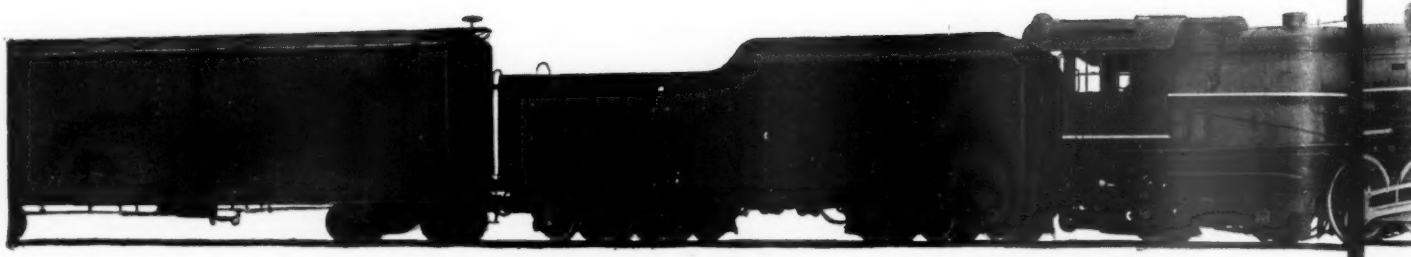

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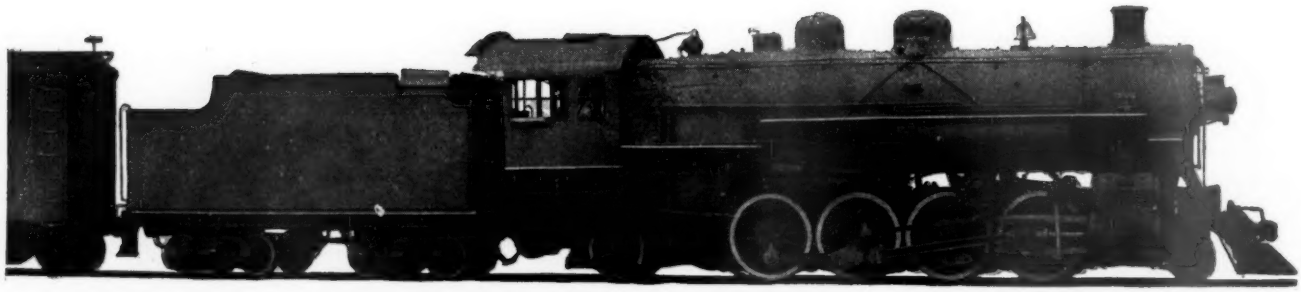

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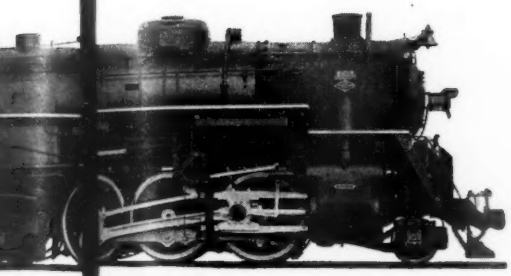

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Revenues and Expenses of Railways

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1932

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of—Way and structures	Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1931
Akron, Canton & Youngstown	Oct.	171	$145,533	$58	$150,846	$16,253	$14,107	$9,515	$39,470	$10,008	$88,548	58.7	$62,298	$50,978	$39,688	$33,041
	10 mos.	171	1,267,152	551	1,333,808	165,707	146,017	99,942	403,446	106,423	913,720	68.5	420,088	300,987	203,143	250,193
Alton	Oct.	978	1,046,404	143,932	1,343,306	106,293	136,555	53,332	492,828	41,168	842,993	62.8	500,313	392,902	254,640	63,111
	10 mos.	1,005	8,946,478	1,728,527	12,014,494	1,426,968	1,487,067	623,338	4,911,798	486,466	9,076,326	75.5	2,938,168	1,844,764	432,130	480,804
Alton & Southern	Oct.	31	.....	.....	82,551	2,367	5,412	5,018	25,687	3,945	42,429	51.40	40,122	50,340	47,826	19,225
	10 mos.	31	.....	.....	753,398	62,694	61,060	52,118	262,238	47,821	485,931	64.43	267,467	225,553	199,002	201,534
Atchison, Topeka & Santa Fe	Oct.	9,725	8,670,735	910,389	10,408,016	1,043,318	2,105,073	310,835	3,226,654	376,347	7,053,218	67.8	3,354,798	2,174,978	2,332,416	2,943,484
	10 mos.	9,724	73,086,650	11,712,414	92,769,036	10,522,675	22,389,070	3,382,277	30,671,200	3,907,249	70,802,295	76.3	21,966,741	12,124,309	13,113,586	23,918,380
Gulf, Colorado & Santa Fe	Oct.	1,955	1,274,865	46,234	1,400,381	122,195	213,324	50,459	416,874	62,646	863,552	61.7	536,829	488,937	415,127	485,336
	10 mos.	1,955	10,485,489	506,863	11,713,924	1,441,129	2,682,355	520,297	4,193,282	720,323	9,547,301	81.5	2,166,623	1,238,903	343,104	1,454,940
Panhandle & Santa Fe	Oct.	1,878	701,614	32,181	789,669	65,598	152,413	19,677	245,401	31,468	512,303	64.9	277,366	230,483	153,582	292,137
	10 mos.	1,877	6,123,427	322,457	6,949,111	1,236,566	1,622,499	196,181	2,231,555	328,183	5,606,872	80.7	1,342,239	822,933	—3,916	1,488,409
Atlanta & West Point	Oct.	93	76,809	15,795	108,205	18,239	23,149	7,459	51,721	7,826	110,491	102.1	—2,286	—12,467	—26,881	—20,041
	10 mos.	93	721,860	190,270	1,081,037	180,302	231,930	81,230	517,228	88,077	1,127,453	104.3	—46,416	—148,635	—264,966	—74,199
Western of Alabama	Oct.	133	91,756	16,946	118,937	18,116	27,637	7,547	44,684	7,397	107,120	90.1	11,817	1,143	3,915	—15,762
	10 mos.	133	724,884	201,506	1,051,118	191,488	289,434	81,842	474,768	85,502	1,147,581	109.2	—96,463	—202,376	—154,238	47,303
Atlanta, Birmingham & Coast	Oct.	639	171,106	4,336	201,660	43,799	57,199	21,329	89,159	18,062	238,113	118.0	—36,453	—48,728	—54,182	—88,976
	10 mos.	639	1,717,993	58,601	2,036,149	497,405	597,928	218,703	968,074	171,050	2,541,725	124.8	—505,576	—648,784	—742,837	—776,248
Atlantic Coast Line	Oct.	5,144	1,865,854	195,843	2,341,404	438,755	542,282	107,794	1,038,472	128,125	2,267,306	96.8	74,098	—126,961	—118,094	—475,478
	10 mos.	5,144	24,000,284	4,053,864	31,355,102	5,012,292	6,960,149	1,251,875	12,512,322	1,408,578	27,397,074	87.4	3,958,028	300,848	—514,337	4,091,748
Charleston & Western Carolina	Oct.	342	135,951	1,245	141,571	22,818	21,419	5,483	47,354	5,141	102,215	72.2	39,356	24,347	28,564	31,520
	10 mos.	342	1,328,171	14,968	1,385,830	220,249	239,555	62,604	528,522	52,615	1,103,485	79.6	282,345	122,347	132,045	356,871
Baltimore & Ohio	Oct.	6,397	10,180,366	775,120	11,755,038	858,650	1,676,401	346,594	3,774,255	545,961	7,216,623	61.4	4,538,415	3,782,891	3,409,351	3,361,732
	10 mos.	6,397	89,343,644	8,951,656	106,274,371	8,900,606	18,740,213	4,082,878	38,988,373	6,065,130	77,566,658	73.0	28,707,713	21,251,837	18,528,898	25,017,091
Baltimore & Ohio Chic. Term	Oct.	85	.....	.....	305,740	12,535	35,216	1,536	147,906	15,278	217,443	71.1	88,297	49,304	128,800	67,508
	10 mos.	85	.....	.....	2,707,899	243,919	365,603	18,246	1,441,643	163,575	2,284,403	84.4	423,496	41,853	889,724	709,135
Staten Island Rapid Transit	Oct.	23	50,732	88,360	147,371	8,980	13,874	1,819	77,869	12,833	115,375	78.3	31,996	13,996	—4,334	10,222
	10 mos.	23	458,279	980,482	1,515,341	82,462	129,523	19,043	807,251	137,179	1,175,458	77.6	339,883	156,958	524	152,683
Bangor & Aroostook	Oct.	619	302,960	9,171	331,860	74,580	80,643	4,130	101,501	25,295	286,813	86.4	45,047	15,962	40,547	208,734
	10 mos.	619	4,610,411	194,408	5,023,608	900,803	930,002	45,602	1,220,514	248,668	3,355,917	66.8	1,667,691	1,245,090	1,239,222	1,172,498
Belt Ry. Co. of Chicago	Oct.	53	.....	.....	397,668	25,429	34,466	2,961	174,205	13,334	250,395	63.0	147,273	124,364	148,093	105,610
	10 mos.	53	.....	.....	3,314,009	225,071	323,457	29,732	1,631,702	94,842	2,304,804	69.5	1,009,205	589,395	1,080,572	1,101,273
Bessemer & Lake Erie	Oct.	225	424,074	863	430,959	61,320	220,062	10,672	103,916	36,145	432,070	100.3	—1,111	—21,814	—19,748	226,493
	10 mos.	226	3,053,540	13,015	3,131,271	554,128	1,611,552	113,733	1,092,703	400,215	3,771,956	120.5	—640,685	—866,187	—850,116	1,735,047
Boston & Maine	Oct.	2,091	2,728,256	545,757	3,855,551	428,721	588,794	60,374	1,402,326	172,604	2,661,100	69.0	1,194,451	940,906	770,549	827,093
	10 mos.	2,092	25,133,601	6,933,526	38,129,885	4,983,234	5,785,663	722,922	14,501,044	1,845,275	27,955,692	73.3	10,174,193	7,787,622	6,185,544	8,713,090
Brooklyn Eastern Dist. Term	Oct.	11	73,150	.....	73,993	4,190	10,570	372	22,124	5,833	43,089	58.2	30,904	24,294	24,294	34,006
	10 mos.	11	724,259	.....	731,970	45,106	92,506	2,132	227,211	60,227	427,182	58.4	304,788	237,748	237,748	366,937
Burlington-Rock Island	Oct.	280	135,122	1,347	141,553	10,504	9,054	3,353	41,799	7,589	72,299	51.1	69,254	67,351	48,105	62,601
	10 mos.	307	743,346	13,798	805,745	160,646	101,402	41,755	369,780	83,777	756,516	93.9	49,229	—14,720	—132,075	—112,300
Cambria & Indiana	Oct.	37	110,076	.....	110,367	6,093	33,388	364	12,229	7,607	59,681	54.07	50,686	31,792	95,593	83,954
	10 mos.	37	896,172	.....	898,428	79,925	369,077	4,120	113,359	84,242	650,723	72.42	247,705	120,871	647,239	771,972
Canadian Pac. Lines in Maine	Oct.	233	80,113	11,402	100,822	58,512	14,638	4,591	46,166	3,875	127,782	126.7	—26,960	—28,610	—42,604	—56,627
	10 mos.	233	1,137,286	172,279	1,423,283	497,749	269,635	48,529	613,275	39,540	1,468,728	103.2	—45,445	—136,745	—328,590	—435,748
Canadian Pac. Lines in Vermont	Oct.	85	75,390	10,328	101,195	25,590	15,006	2,050	51,567	2,600	96,813	95.7	4,382	—2,618	—22,635	—45,202
	10 mos.	85	584,349	149,454	919,934	190,126	208,561	21,769	563,378	28,965	1,012,799	110.0	—92,865	—144,545	—354,764	—388,090
Central of Georgia	Oct.	1,944	848,834	65,752	1,024,672	102,098	193,217	50,656	411,516	69,155	828,815	80.9	195,857	92,731	74,288	143,256
	10 mos.	1,944	7,746,307	949,527	9,821,980	1,223,105	1,914,459	544,871	4,362,111	710,879	8,811,472	89.7	1,010,508	—16,134	—195,249	1,659,463
Central New Jersey	Oct.	691	2,194,168	390,414	2,773,019	197,788	468,726	41,531	976,298	87,524	1,785,599	64.4	987,420	385,027	316,957	436,710
	10 mos.	692	19,194,362	4,643,096	25,593,028	2,088,293	4,762,697	522,181	10,325,631	950,635	18,803,291	73.5	6,789,737	2,743,043	2,105,904	3,514,862
Central Vermont	Oct.	457	355,917	31,951	439,810	60,595	79,130	14,554	218,086	19,220	391,921	89.1	47,889	30,320	16,428	67,407
	10 mos.	457	3,522,313	467,776	4,482,096	840,898	834,427	158,807	2,002,612	207,906	4,047,042	90.3	435,054	260,081	158,890	610,612
Chesapeake & Ohio	Oct.	3,144	10,253,089	192,903	10,785,254	1,397,794	1,444,432	153,915	2,055,555	273,387	5,336,860	49.5	5,448,394	4,655,796	4,610,282	3,869,274
	10 mos.	3,144	76,308,341	2,299,784	81,862,307	8,749,223	13,739,038	1,581,756	19,144,965	2,985,658	46,364,659	56.6	35,497,648	27,610,546	26,855,132	31,296,704
Chicago & Eastern Illinois	Oct.	938	955,064	87,179	1,143,663	129,256	127,299	56,843	454,116	59,725	833,618	72.9	310,045	199,796	56,850	—130,359
	10 mos.	938	8,190,831	994,927	10,180,644	1,325,428	1,821,565	595,939	4,547,068	583,350	8,946,108	87.9	1,234,536	130,354	—1,151,500	—1,340,655

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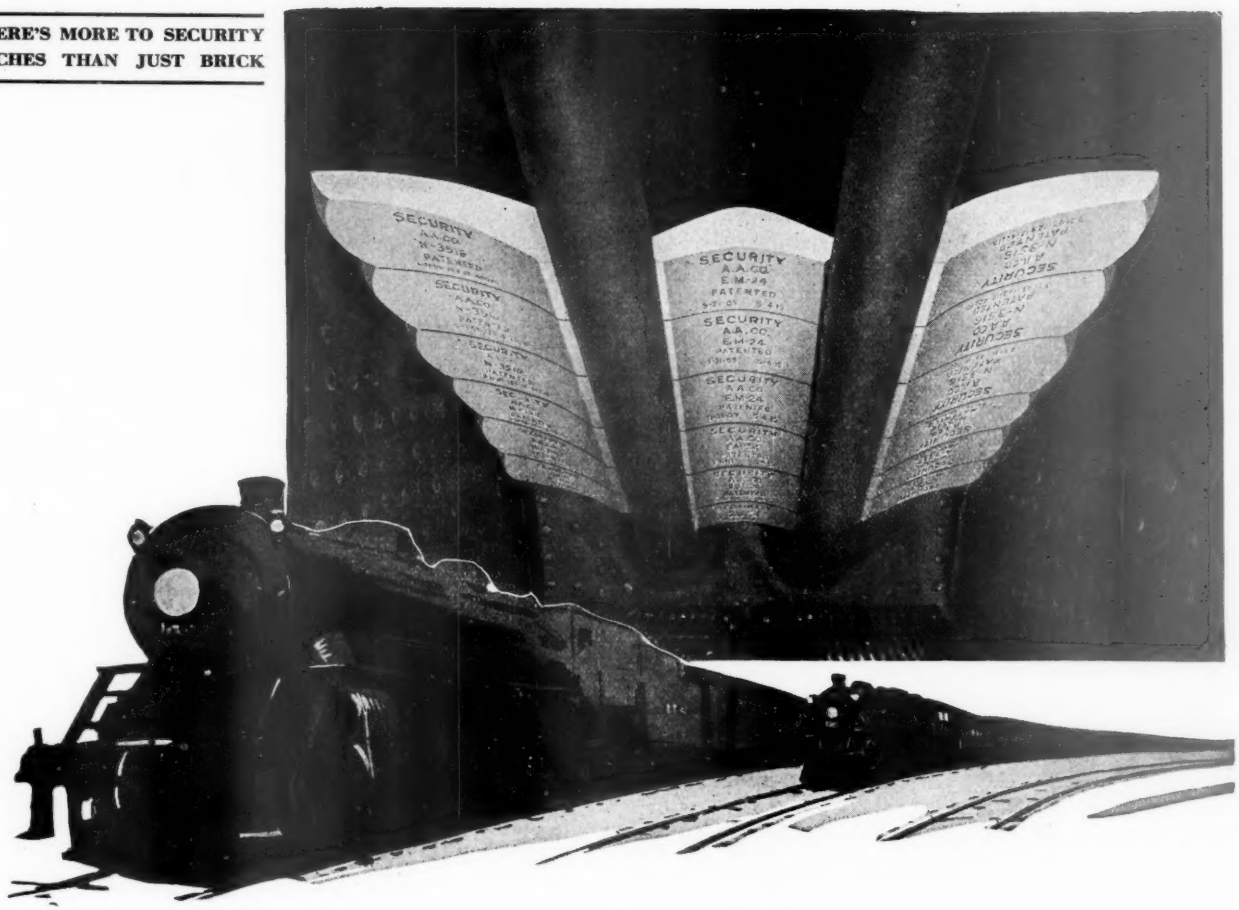

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Revenues and Expenses of Railways

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1931
Chicago & Illinois Midland	Oct.	131	$140,892	$1,601	$149,420	$13,808	$34,523	$16,340	$47,412	$14,489	$126,568	84.7	$22,852	$14,309	$31,000	$130,770
	10 mos.	131	1,515,807	14,398	1,599,621	151,946	355,349	177,991	503,798	160,576	1,348,661	84.3	250,960	166,196	106,019	369,198
Chicago & North Western	Oct.	8,442	5,577,592	661,558	7,048,328	872,773	1,181,663	163,500	2,597,403	268,368	5,112,741	72.5	1,935,587	1,349,336	1,014,051	524,517
	10 mos.	8,442	45,929,167	8,560,301	61,656,119	8,931,608	11,743,992	1,657,397	25,939,650	2,851,398	51,494,568	83.5	10,161,551	3,713,356	1,208,794	6,729,673
Chicago, Burlington & Quincy	Oct.	9,251	6,554,857	510,629	7,846,250	929,000	1,137,590	195,175	2,466,604	287,190	5,062,336	64.5	2,783,914	2,087,604	1,796,621	2,131,040
	10 mos.	9,264	53,432,199	6,275,113	67,230,439	8,181,334	11,214,350	2,155,042	24,244,641	2,950,697	49,247,271	73.3	17,983,168	11,108,871	8,304,126	18,470,691
Chicago Great Western	Oct.	1,499	1,369,470	45,238	1,509,785	248,801	183,548	57,875	516,110	54,131	1,062,441	70.4	447,344	388,167	174,603	266,928
	10 mos.	1,491	11,363,104	599,689	12,842,038	1,920,410	1,641,344	606,484	4,969,476	550,833	9,711,392	75.6	3,130,646	2,406,156	524,854	2,224,265
Chicago, Indianapolis & Louisville	Oct.	644	592,178	47,089	716,448	43,883	152,948	24,100	276,978	26,058	526,791	73.5	189,657	184,436	92,834	21,873
	10 mos.	644	5,356,016	542,114	6,684,652	657,353	1,436,032	261,606	2,865,500	265,889	5,545,697	83.0	1,138,955	671,052	—248,081	250,938
Chicago, Mil., St. Paul & Pacific	Oct.	11,254	7,361,728	387,250	8,529,575	1,103,890	1,507,525	217,795	2,825,223	291,767	5,970,350	70.0	2,559,225	1,969,314	1,461,139	1,179,977
	10 mos.	11,266	59,374,837	5,039,814	71,583,548	12,109,000	15,673,425	2,354,960	28,119,388	2,918,228	61,252,811	85.6	10,330,737	3,574,179	—935,475	7,355,502
Chicago River & Indiana	Oct.	20	.....	.....	406,406	13,000	18,000	942	117,385	10,846	160,173	39.4	246,233	219,007	273,204	276,745
	10 mos.	20	.....	.....	3,630,267	186,500	244,000	14,655	1,184,745	126,141	1,756,041	48.4	1,874,226	1,567,595	2,133,403	2,389,523
Chicago, Rock Island & Pacific	Oct.	7,611	4,912,005	486,584	5,967,731	598,679	1,139,560	193,724	2,232,145	268,788	4,493,591	75.3	1,474,140	1,019,081	739,721	1,056,572
	10 mos.	7,620	45,764,098	5,560,413	57,093,930	5,317,053	11,255,335	1,975,545	23,024,867	2,823,284	45,095,489	79.0	11,998,441	6,984,560	3,596,692	11,325,513
Chicago, Rock Island & Gulf	Oct.	721	320,434	21,016	332,755	40,096	35,710	17,252	115,784	17,143	228,393	68.6	104,362	82,853	40,882	187,895
	10 mos.	721	3,169,003	242,116	3,420,603	369,039	337,635	172,312	1,187,136	190,129	2,285,677	66.8	1,134,926	905,180	396,545	1,580,212
Chic., St. Paul, Minn. & Omaha	Oct.	1,736	1,169,086	101,150	1,384,641	240,000	218,410	31,480	585,228	64,241	1,146,786	82.8	237,855	158,469	81,939	20,770
	10 mos.	1,736	10,043,142	1,422,712	12,591,533	2,143,579	2,294,460	333,521	5,770,177	637,997	11,242,076	89.3	1,349,457	523,597	—188,623	273,736
Clinchfield R. R.	Oct.	309	377,463	1,632	384,086	25,826	85,548	14,404	74,018	12,378	212,174	55.2	171,912	111,912	150,355	146,660
	10 mos.	309	3,235,562	22,702	3,306,890	407,479	871,127	159,971	695,052	139,793	2,273,093	68.7	1,033,797	403,337	554,170	1,249,379
Colorado & Southern	Oct.	1,030	526,775	25,866	605,330	55,101	106,878	11,703	179,213	31,064	380,765	62.9	224,565	179,413	160,281	192,765
	10 mos.	1,032	3,776,863	289,773	4,559,277	704,146	1,114,772	129,455	1,752,092	325,737	3,952,623	86.7	606,654	—13,505	—172,156	445,180
Ft. Worth & Denver City	Oct.	804	495,108	39,045	624,593	34,284	78,725	17,217	159,458	30,716	321,144	51.4	303,449	290,355	245,644	192,989
	10 mos.	738	3,746,158	404,955	4,799,529	495,124	752,925	168,219	1,513,485	334,083	3,037,086	63.3	1,762,443	1,456,137	1,158,942	1,857,913
Columbus & Greenville	Oct.	167	63,814	3,595	72,013	18,210	9,973	2,629	27,202	9,491	67,505	93.7	4,508	1,107	4,849	4,784
	10 mos.	167	527,691	47,740	616,914	182,901	111,102	31,575	249,778	103,098	677,749	109.9	—60,835	—74,746	—56,382	74,119
Conemaugh & Black Lick	Oct.	20	8,019	.....	23,836	5,557	5,518	292	13,416	2,927	27,710	116.3	—3,874	—2,874	—1,954	13,309
	10 mos.	20	113,234	.....	269,963	42,457	74,651	3,637	173,569	36,043	330,357	122.4	—60,394	—63,894	—52,562	—5,613
Delaware & Hudson	Oct.	854	1,938,414	101,440	2,174,298	296,875	544,802	50,926	812,202	137,769	1,839,446	84.6	334,852	262,418	268,320	757,159
	10 mos.	854	16,835,555	1,228,551	19,542,296	3,050,129	5,405,676	514,879	8,163,402	1,433,072	18,614,056	95.3	928,240	65,180	27,924	3,584,591
Delaware Lackawanna & Western	Oct.	998	3,036,563	552,751	*4,134,472	280,938	722,783	110,281	1,682,386	153,259	2,974,597	71.9	1,159,875	609,823	593,607	895,964
	10 mos.	998	27,185,096	6,251,879	*39,067,516	3,809,742	7,527,778	1,210,950	16,791,049	1,553,007	31,180,128	79.8	7,887,388	3,444,248	3,298,955	6,346,870
Denver & Rio Grande Western	Oct.	2,513	2,185,056	73,192	2,360,607	166,785	262,862	45,614	635,585	75,029	1,193,065	50.5	1,167,542	1,017,320	957,509	803,822
	10 mos.	2,535	12,638,920	918,554	14,540,358	1,707,755	3,117,726	468,511	4,735,745	778,797	10,894,904	74.9	3,645,454	2,036,705	1,996,128	4,337,618
Denver & Salt Lake	Oct.	232	230,359	2,901	244,914	16,323	26,329	1,619	34,080	9,785	88,070	36.0	156,844	142,844	143,783	155,413
	10 mos.	232	1,374,861	55,540	1,545,102	226,206	250,582	17,225	265,504	100,110	840,618	54.4	704,484	551,393	587,644	656,135
Detroit & Mackinac	Oct.	242	73,931	1,759	83,367	9,601	10,257	1,051	23,649	4,394	48,946	58.7	34,421	28,635	28,983	23,837
	10 mos.	242	552,764	30,353	655,559	121,516	102,512	12,886	238,067	40,803	515,618	78.7	139,941	101,225	101,464	189,536
Detroit & Toledo Shore Line	Oct.	50	206,428	.....	207,884	12,297	18,424	6,335	49,847	6,487	93,389	44.9	114,495	89,584	50,544	24,949
	10 mos.	50	1,809,820	.....	1,826,988	174,838	219,684	72,688	500,832	66,796	1,034,246	56.6	792,742	606,381	232,580	362,934
Detroit Terminal	Oct.	19	.....	.....	45,645	4,055	7,102	.....	24,073	2,664	37,894	83.0	7,751	—3,902	2,681	—16,322
	10 mos.	19	.....	.....	507,169	58,211	75,933	49	286,509	29,654	450,356	88.8	56,813	—62,765	—104,307	—57,895
Detroit, Toledo & Ironton	Oct.	487	267,790	252	278,099	34,868	59,931	9,011	104,101	17,675	224,625	80.8	53,474	14,308	5,086	3,176
	10 mos.	487	3,433,472	4,069	3,533,641	452,808	679,468	111,627	1,193,532	211,237	2,640,534	74.7	893,107	457,707	393,671	928,842
Duluth, Missabe & Northern	Oct.	563	357,154	1,001	415,697	76,538	105,263	2,802	138,880	39,895	363,375	87.4	52,322	29,024	29,161	519,991
	10 mos.	563	1,912,725	16,525	2,242,888	882,691	1,416,062	31,683	1,275,789	404,784	4,010,810	178.8	—1,767,922	—1,881,225	—1,879,722	2,385,556
Duluth, Winnipeg & Pacific	Oct.	178	60,841	2,764	70,074	19,653	27,196	2,794	36,917	4,778	91,394	130.4	—21,321	—24,847	—6,252	—26,030
	10 mos.	178	643,647	35,282	723,520	223,850	198,859	30,675	382,695	55,091	897,657	124.1	—174,138	—211,882	—40,533	—299,565
Elgin, Joliet & Eastern	Oct.	447	600,158	2	650,496	74,524	143,544	11,238	265,848	50,413	545,559	83.9	104,937	49,514	14,909	—49,929
	10 mos.	447	6,099,634	24	6,614,042	864,979	1,555,569	127,929	2,994,753	541,507	6,084,471	92.0	529,571	—556,418	—902,785	123,826
Erie Railroad	Oct.	2,046	5,239,310	435,990	6,157,293	561,416	1,096,480	131,567	2,074,754	241,953	4,120,823	66.9	2,036,470	1,654,482	1,475,270	1,289,682
	10 mos.	2,046	44,626,571	5,058,025	54,648,582	6,174,084	11,373,309	1,429,057	20,325,425	2,501,594	42,012,875	76.9	12,635,707	8,714,115	7,242,187	9,124,659
Chicago & Erie	Oct.	269	946,303	15,406	1,011,033	101,688	120,885	23,034	227,618	32,832	505,657	50.0	505,376	456,012	219,957	84,000
	10 mos.	269	6,787,894	228,942	7,544,607	1,022,481	1,117,455	242,881	2,118,855	341,794	4,840,379	64.2	2,704,228	2,187,218	103,546	410,053

Continued on next left-hand page

300 H. P.
Total Weight
114,000 lb.
Tractive Power Starting
34,200 lb.

AN ATTRACTIVE INVESTMENT

WHERE conditions permit operating multiple shifts, the savings that can be effected by Alco Diesel Locomotives assure an investment that is unusually attractive.

"The ALCO Diesel Locomotive Is More Than Just Another Oil-Electric"

Consider the savings in fuel . . in maintenance . . the elimination of costly boiler wash periods . . that in many cases coal chutes and water cranes can be dispensed with . . also the advantage of practically silent and clean operation.

American Locomotive Company
30 Church Street New York N.Y.

600 H. P.
Total Weight
202,000 lb.
Tractive Power Starting
60,600 lb.

Revenues and Expenses of Railways

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of—Way and structures	Maintenance of—Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1931
New Jersey & New York	Oct.	45	$22,183	$68,304	$93,216	$8,850	$23,436	$1,302	$50,237	$3,389	$87,214	93.6	$6,002	$1,001	—$18,406	—$17,726
	10 mos.	45	170,692	724,316	922,080	96,220	243,746	15,017	489,304	33,935	878,241	95.2	43,839	—7,342	—202,984	—157,848
N. Y. Susquehanna & Western	Oct.	131	302,809	28,320	348,157	34,064	55,058	4,187	112,414	9,880	215,603	61.9	132,554	100,117	89,350	55,373
	10 mos.	131	2,441,393	302,455	2,930,973	315,330	503,960	46,009	1,129,537	108,982	2,103,498	71.8	827,475	504,963	356,435	474,145
Florida East Coast	Oct.	850	233,968	56,358	335,569	102,215	131,093	18,554	131,797	39,511	426,485	127.1	—90,016	—116,251	—133,399	—133,119
	10 mos.	862	3,553,834	1,379,939	5,680,892	1,076,350	1,336,787	213,658	1,680,887	403,792	4,776,221	84.1	904,671	29,524	—359,095	427,876
Fort Smith & Western	Oct.	249	86,877	912	91,800	14,591	12,809	5,043	23,594	5,203	61,405	66.9	30,395	27,993	23,393	8,471
	10 mos.	249	513,491	11,477	564,595	136,333	101,087	47,273	215,583	47,596	548,458	97.1	16,137	—11,096	—60,115	—111,582
Galveston Wharf	Oct.	11	.....	.....	127,725	38,205	3,595	3,383	23,639	6,072	81,003	63.4	46,722	23,704	23,627	85,001
	10 mos.	11	.....	.....	1,382,307	429,822	44,216	35,493	228,307	62,002	920,742	66.6	461,565	230,969	230,868	349,792
Georgia R. R.	Oct.	329	253,834	12,767	285,508	41,022	42,659	17,067	115,332	13,692	230,172	80.6	55,336	49,983	58,983	68,767
	10 mos.	329	2,057,580	165,558	2,417,545	331,243	450,854	182,847	1,125,957	157,780	2,238,930	92.6	178,615	110,339	229,951	528,062
Georgia & Florida	Oct.	463	59,029	1,849	65,538	15,666	15,103	8,701	30,204	5,980	75,834	115.7	—10,296	—16,996	—14,092	—13,576
	10 mos.	463	645,657	16,514	709,481	183,149	156,112	85,759	322,791	64,541	813,958	114.7	—104,477	—171,543	—181,118	—52,752
Grand Trunk Western	Oct.	1,023	1,108,561	51,270	1,256,513	190,179	257,968	42,114	564,623	84,327	1,139,817	90.7	116,696	34,206	—65,587	—292,175
	10 mos.	1,022	10,136,655	673,902	11,761,208	1,755,419	2,612,537	461,604	5,917,294	885,938	11,689,142	99.4	72,066	—878,977	—1,776,394	—1,374,395
Canadian Natl. Lines in New Eng.	Oct.	172	100,506	6,072	121,187	21,929	19,898	3,220	49,312	8,369	104,315	86.0	16,872	7,027	—27,967	—124,715
	10 mos.	172	780,984	86,334	999,529	228,274	206,338	36,037	611,804	90,024	1,196,344	119.7	—196,815	—327,331	—763,085	—926,746
Great Northern	Oct.	8,457	6,245,172	248,789	6,946,263	485,840	965,541	161,974	1,940,859	191,692	3,786,126	54.5	3,160,137	2,514,522	2,153,500	2,848,717
	10 mos.	8,398	38,644,317	3,336,346	46,645,765	6,918,903	10,595,582	1,809,393	17,296,665	1,927,963	38,875,254	83.3	7,770,511	1,801,696	101,060	10,474,494
Green Bay & Western	Oct.	234	98,051	1,152	101,976	21,590	14,238	5,352	42,838	2,539	86,538	84.8	15,438	10,438	8,268	19,985
	10 mos.	234	925,586	13,775	968,913	209,786	154,832	45,321	418,364	26,403	854,000	88.1	114,913	52,910	31,094	120,230
Gulf & Ship Island	Oct.	307	72,968	7,764	94,743	10,464	14,615	2,506	46,066	4,727	78,380	82.7	16,363	—1,244	—11,652	—39,041
	10 mos.	307	658,511	96,896	878,498	103,367	141,446	31,337	495,766	60,768	835,447	95.1	43,051	—130,219	—226,868	—425,458
Gulf, Mobile & Northern	Oct.	733	268,802	8,668	294,211	32,700	58,966	18,953	79,574	16,307	206,560	70.21	87,651	64,644	44,632	63,045
	10 mos.	733	2,398,698	98,178	2,663,446	410,338	554,963	225,111	978,094	178,295	2,346,801	88.11	316,645	85,097	—109,849	104,850
Illinois Central	Oct.	5,014	6,782,681	568,882	7,851,684	732,978	1,353,144	150,563	2,507,086	313,561	5,083,475	64.7	2,768,209	2,277,761	2,111,737	1,497,080
	10 mos.	5,016	52,707,113	7,013,217	65,324,383	5,730,603	13,138,741	1,913,332	24,353,363	3,162,489	48,671,630	74.5	16,652,753	11,415,235	10,172,215	8,946,944
Yazoo & Mississippi Valley	Oct.	1,673	994,119	59,216	1,132,914	130,647	131,581	25,955	440,187	52,010	781,909	69.0	351,005	217,585	118,461	370,664
	10 mos.	1,675	8,248,739	789,529	9,779,355	949,183	1,370,753	312,813	4,229,870	537,079	7,424,006	75.9	2,355,349	1,002,980	106,587	—384,766
Illinois Central System	Oct.	6,687	7,776,800	628,098	8,984,598	863,625	1,484,725	176,518	2,947,273	365,571	5,865,384	65.3	3,119,214	2,495,346	2,230,198	1,867,744
	10 mos.	6,692	60,955,852	7,802,746	75,103,738	6,679,786	14,509,494	2,226,145	28,583,233	3,699,568	56,095,636	74.7	19,008,102	12,418,215	10,278,802	8,562,178
Illinois Terminal	Oct.	542	369,161	53,226	440,299	65,001	53,236	14,810	151,172	20,731	302,355	68.67	137,944	120,835	91,417	65,555
	10 mos.	543	3,066,942	559,334	3,810,161	501,216	495,472	157,398	1,433,334	224,780	2,801,486	73.53	1,008,675	774,761	503,864	1,222,195
Kansas City Southern	Oct.	783	719,806	15,947	828,374	70,240	122,204	42,838	231,914	60,417	529,166	63.9	299,208	231,076	211,342	181,529
	10 mos.	783	6,179,977	251,734	7,426,855	736,418	1,268,138	442,753	2,422,732	634,450	5,527,564	74.4	1,899,291	1,036,103	815,203	2,147,259
Texarkana & Ft. Smith	Oct.	99	91,922	1,121	102,607	11,893	7,157	6,160	27,057	9,426	63,352	61.7	39,255	30,377	9,922	13,301
	10 mos.	99	821,146	16,329	963,738	123,335	83,016	61,071	294,375	88,073	664,912	69.0	298,826	210,088	17,249	359,670
Kansas, Oklahoma & Gulf	Oct.	326	177,873	321	180,873	14,405	16,461	7,558	38,251	6,326	82,669	45.7	98,204	89,100	73,579	67,901
	10 mos.	326	1,465,467	4,177	1,497,464	175,744	162,518	90,906	374,644	76,915	879,050	58.7	618,414	479,514	337,041	568,801
Lake Superior & Ishpeming	Oct.	160	75,022	33	85,335	14,229	9,915	552	20,871	4,725	50,292	58.9	35,043	25,195	24,745	35,138
	10 mos.	160	343,253	844	381,675	166,965	121,800	5,509	166,157	53,740	514,171	134.7	—132,496	—274,281	—285,171	87,649
Lake Terminal	Oct.	12	.....	.....	43,604	2,824	4,196	.....	16,398	2,459	25,877	59.3	17,727	14,791	17,087	21,946
	10 mos.	12	.....	.....	305,422	25,893	39,570	.....	142,402	20,110	227,975	74.6	77,447	49,922	66,140	71,764
Lehigh & Hudson River	Oct.	96	131,158	341	138,652	12,605	16,781	3,164	43,669	6,032	82,209	59.3	56,443	43,100	28,571	32,291
	10 mos.	96	1,232,663	4,828	1,319,138	167,743	205,602	32,057	462,079	79,953	947,392	71.8	371,746	244,888	113,702	202,834
Lehigh & New England	Oct.	216	311,789	465	315,414	34,230	51,435	4,523	96,551	15,510	202,249	64.1	113,165	98,229	102,949	121,263
	10 mos.	216	2,712,848	4,938	2,745,624	346,381	576,053	47,909	939,402	175,664	2,085,363	76.0	660,261	554,398	642,116	729,246
Lehigh Valley	Oct.	1,362	3,278,893	186,380	3,742,721	206,838	650,539	107,202	1,398,475	123,985	2,500,808	66.8	1,241,913	1,029,171	934,762	1,170,785
	10 mos.	1,362	27,011,334	2,393,068	32,326,626	2,764,181	7,208,072	1,185,326	14,031,100	1,258,201	26,602,642	82.3	5,723,984	3,294,361	2,339,363	4,510,694
Louisiana & Arkansas	Oct.	608	341,135	11,877	376,650	51,502	58,131	18,647	89,622	17,619	235,871	62.6	140,779	121,353	115,375	184,476
	10 mos.	608	3,097,676	95,280	3,443,079	523,612	569,377	209,151	910,879	195,901	2,408,494	70.0	1,034,585	660,752	654,429	1,225,367
Louisiana, Arkansas & Texas	Oct.	255	80,222	358	88,134	16,207	7,853	3,693	23,864	4,119	55,476	63.3	32,658	30,692	18,064	—5,392
	10 mos.	221	495,984	4,326	555,123	135,391	68,269	35,041	200,749	43,583	482,439	86.9	72,684	42,904	—27,094	—82,653
Louisville & Nashville	Oct.	5,182	5,332,656	344,390	6,136,897	664,150	1,122,948	149,438	2,032,607	275,000	4,272,808	69.6	1,864,089	1,517,440	1,625,818	952,749
	10 mos.	5,254	44,277,688	4,401,628	53,018,165	7,744,091	11,418,186	1,740,659	20,099,391	2,882,924	44,173,242	83.3	8,844,923	4,642,704	4,998,756	8,197,034

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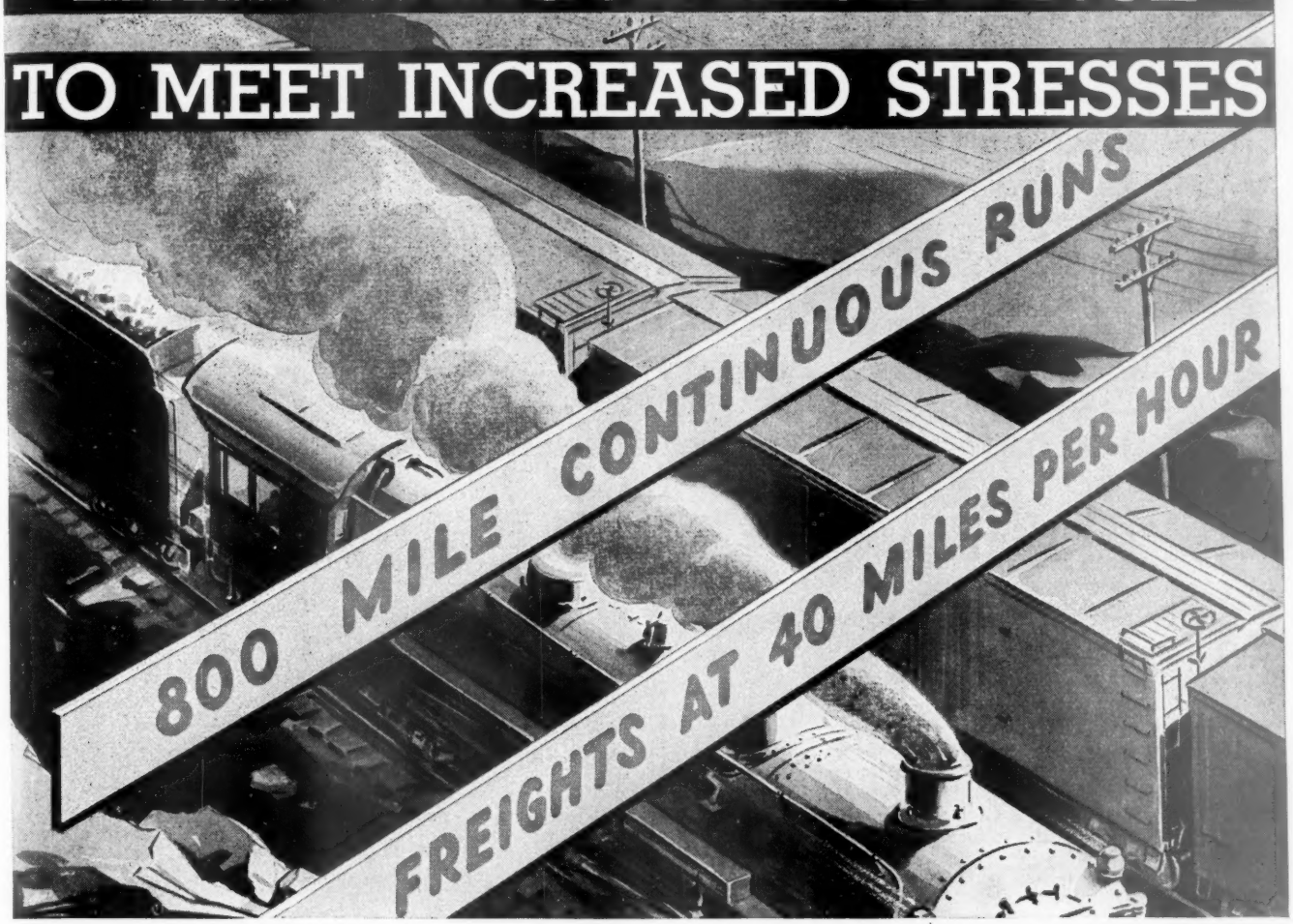
EXTRA FATIGUE RESISTANCE TO MEET INCREASED STRESSES



THE average locomotive now in service dates from a time when 800 mile continuous runs and freight trains at 40 miles per hour had no place in the designer's plan. « Fitting these locomotives to modern railroad operation imposes stresses never contemplated by the designer. « Maintenance has been high but it can be lowered by taking full advantage of the improved materials made available by the science of modern metallurgy. « Alloy Steels and Irons, developed by Republic Steel Corporation metallurgists, are providing better resistance to corrosion, greater strength and higher fatigue resistance. « Whether it be springs, rods, axles, motion work pins, tubes or staybolts, Republic Steel Corporation has carefully worked out a material specifically to meet the conditions of modern railroading. « A material that will be stronger and last longer. « Wherever you use iron or steel, consult Republic Steel Corporation for better materials.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes • Agathon Alloy Steels for Locomotive Parts • Agathon Engine Bolt Steel • Agathon Iron for pins and bushings • Agathon Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts • Track Material, Maney Guard Rail Assemblies • Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets • Agathon Nickel Forging Steel.

The Birdsboro Steel Foundry & Machine Company of Birdsboro, Penna., has manufactured and is prepared to supply under license, Toncan Copper Molybdenum Iron castings for locomotives.

CENTRAL ALLOY DIVISION

AGATHON STEELS

REPUBLIC STEEL CORPORATION

MASSILLON OHIO

TONCAN COPPER MOLYBDENUM IRON

Revenues and Expenses of Railways

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1931
Maine Central	Oct.	1,121	$755,162	$69,538	$910,513	$117,911	$138,810	$11,099	$346,903	$38,160	$652,105	71.6	$258,408	$204,565	$182,874	$219,404
	10 mos.	1,121	7,511,606	1,057,493	9,579,290	1,507,182	1,573,343	155,353	3,752,921	410,568	7,403,360	77.3	2,175,930	1,611,491	1,278,689	1,752,162
Midland Valley	Oct.	363	150,235	599	154,946	14,534	13,458	2,643	31,389	5,989	67,683	43.7	87,263	78,368	67,552	72,066
	10 mos.	363	1,221,991	7,424	1,267,156	189,696	139,475	35,967	311,915	75,086	746,926	58.9	520,230	416,306	346,173	443,333
Minneapolis & St. Louis	Oct.	1,627	766,070	12,088	824,521	103,036	138,079	29,385	331,519	36,962	639,153	77.5	185,368	139,849	114,639	—1,572
	10 mos.	1,627	5,987,839	211,529	6,635,612	1,032,671	1,344,854	308,448	3,201,801	414,857	6,300,347	94.9	335,265	—109,021	—345,917	135,974
Minn., St. Paul & S. S. Marie	Oct.	4,349	1,933,310	92,149	2,199,357	289,596	341,524	64,124	811,911	107,964	1,623,564	73.8	575,793	405,148	267,424	6,113
	10 mos.	4,349	15,871,206	1,235,493	18,761,176	2,809,919	4,192,871	679,158	8,120,468	1,084,507	16,965,484	90.4	1,795,692	27,252	—1,347,905	571,150
Duluth, South Shore & Atlantic	Oct.	560	131,549	9,757	159,518	40,568	33,763	6,415	76,295	8,386	166,250	104.2	—6,732	—35,576	—44,663	2,566
	10 mos.	560	1,143,603	136,755	1,434,320	361,609	334,808	66,537	732,025	86,522	1,593,153	111.1	—158,833	—426,198	—461,151	—147,151
Spokane International	Oct.	163	44,686	1,948	50,530	13,043	5,637	2,439	20,997	4,171	46,326	91.7	4,204	—645	—3,114	—2,738
	10 mos.	163	395,275	23,572	460,757	151,218	50,164	27,769	218,447	48,638	500,803	108.7	—40,046	—90,316	—114,108	5,699
Mississippi Central	Oct.	150	59,638	910	62,553	5,254	9,880	7,111	17,944	5,233	45,422	72.6	17,131	13,379	8,985	22,654
	10 mos.	150	491,442	13,269	524,243	75,814	111,883	76,095	181,742	54,916	500,442	95.5	23,801	—13,711	—51,478	112,405
Missouri & North Arkansas	Oct.	364	71,983	1,122	79,279	18,276	9,195	6,749	30,947	6,958	72,101	90.9	7,178	4,716	—6,316	—16,935
	10 mos.	364	656,100	13,488	722,875	163,502	106,128	75,247	296,523	72,883	712,632	98.6	10,243	—14,356	—97,651	—91,647
Missouri-Illinois	Oct.	202	74,356	564	76,647	12,299	15,208	2,619	26,714	5,496	62,333	81.3	14,314	9,231	1,905	6,853
	10 mos.	202	716,246	4,952	738,124	130,183	135,151	31,573	246,035	56,782	599,510	81.2	138,614	86,760	18,690	151,206
Missouri-Kansas-Texas Lines	Oct.	3,188	2,252,203	174,862	2,682,164	220,642	315,638	115,242	775,882	136,946	1,577,837	58.8	1,104,327	954,262	787,709	1,297,886
	10 mos.	3,188	18,356,256	1,882,045	22,566,582	2,640,008	3,209,095	1,121,003	7,727,059	1,333,745	16,175,204	71.7	6,391,378	4,413,918	2,820,495	3,975,440
Missouri Pacific	Oct.	7,436	6,059,327	318,824	6,907,647	699,556	1,049,147	212,904	2,379,169	265,476	4,581,365	66.3	2,326,282	2,074,037	1,635,331	1,595,221
	10 mos.	7,436	49,547,497	3,951,023	58,884,188	6,462,594	10,602,578	2,295,283	22,421,749	2,791,850	44,777,322	76.0	14,106,866	10,660,728	7,405,091	15,326,066
Gulf Coast Lines	Oct.	1,030	421,339	27,990	487,333	59,243	114,896	31,630	150,996	40,752	394,649	80.98	92,684	58,609	32,301	71,527
	10 mos.	1,030	6,048,950	378,281	6,847,122	784,836	1,265,248	353,816	1,907,750	447,919	4,754,533	69.44	2,092,589	1,642,487	1,081,861	1,584,351
International-Great Northern	Oct.	1,159	743,973	49,718	878,991	87,671	132,247	24,472	336,239	45,280	630,470	71.73	248,521	221,311	140,548	111,172
	10 mos.	1,159	6,958,911	655,809	8,489,255	1,080,666	1,516,749	287,533	3,527,307	507,587	6,989,531	82.33	1,499,724	1,110,130	391,402	2,398,001
San Antonio, Uvalde & Gulf	Oct.	316	39,480	3,962	50,783	18,311	8,152	3,963	17,700	4,505	52,630	103.6	—1,847	—5,323	—26,241	—32,546
	10 mos.	316	696,079	57,846	819,841	201,361	116,923	45,427	212,968	50,963	622,187	75.9	197,654	153,734	—92,190	—46,642
Mobile & Ohio	Oct.	1,239	684,578	20,027	744,408	109,547	138,315	39,000	261,135	37,573	599,895	80.6	144,513	87,109	16,306	—17,660
	10 mos.	1,222	5,965,717	235,878	6,632,502	998,846	1,272,538	437,255	2,835,343	399,602	5,958,512	89.8	673,990	94,437	—505,619	—84,657
Monongahela	Oct.	177	335,792	546	338,002	20,663	22,254	837	59,895	7,367	110,864	32.8	227,138	204,849	130,456	136,790
	10 mos.	177	3,022,760	9,468	3,050,933	277,148	273,860	10,246	626,209	75,414	1,263,019	41.4	1,787,914	1,626,230	941,758	1,043,805
Monongahela Connecting	Oct.	6	.....	.....	35,492	8,585	15,062	46	22,468	2,566	48,727	137.3	—13,235	—18,385	—18,513	—17,225
	10 mos.	6	.....	.....	400,990	83,969	155,469	881	255,767	26,344	522,430	130.3	—121,440	—170,765	—171,192	—41,971
Montour	Oct.	57	182,203	.....	184,140	10,272	30,008	1,239	32,786	6,235	80,540	43.7	103,600	95,763	110,531	117,964
	10 mos.	57	1,201,935	.....	1,207,786	119,631	338,510	13,287	274,543	67,270	813,229	67.3	394,557	368,898	549,840	817,728
Nashville, Chattanooga & St. Louis	Oct.	1,203	857,411	62,705	1,018,664	121,055	214,084	54,218	389,002	51,479	834,506	81.9	184,158	140,981	135,910	144,599
	10 mos.	1,203	7,783,372	786,394	9,558,210	1,353,171	2,061,017	575,957	3,956,528	550,677	8,540,484	89.4	1,017,726	586,329	517,845	715,774
Nevada Northern	Oct.	165	26,061	1,392	32,210	10,228	3,698	827	7,857	3,822	26,432	82.1	5,778	—1,991	1,817	26
	10 mos.	165	223,916	17,089	287,148	94,662	42,824	7,785	86,449	37,773	269,493	93.9	17,655	—56,952	—18,047	—225,640
Newburgh & South Shore	Oct.	6	.....	.....	56,222	5,731	16,457	.....	26,244	5,254	53,686	95.5	2,536	—7,537	—4,387	—7,293
	10 mos.	6	.....	.....	495,009	77,800	171,897	.....	265,856	48,918	564,471	114.1	—69,462	—178,577	—149,298	—80,924
New Orleans Great Northern	Oct.	264	148,487	7,761	160,934	14,679	21,278	11,920	56,719	6,890	111,486	69.3	49,448	39,417	19,188	41,303
	10 mos.	264	1,279,241	81,129	1,406,645	140,951	187,322	124,368	459,879	76,246	988,766	70.3	417,879	312,578	87,742	388,804
New Orleans Terminal	Oct.	20	984	.....	148,013	10,737	6,566	.....	28,115	1,017	46,435	31.4	101,578	89,995	70,668	68,250
	10 mos.	20	10,265	.....	1,202,867	102,215	69,558	.....	309,208	12,702	493,683	41.0	709,184	593,391	413,708	417,215
New York Central	Oct.	11,495	18,396,791	4,210,099	25,966,902	2,196,620	5,843,478	501,112	9,107,101	936,534	18,891,992	72.8	7,074,910	4,749,139	3,575,385	1,868,242
	10 mos.	11,511	161,999,113	50,997,395	246,929,577	24,528,448	53,162,345	5,787,477	93,336,954	10,894,140	191,204,058	77.4	55,725,519	29,330,401	16,934,527	26,515,974
Indiana Harbor Belt	Oct.	120	.....	.....	720,225	40,000	40,000	3,031	254,540	18,099	366,994	51.	353,231	296,742	213,487	170,562
	10 mos.	119	.....	.....	6,134,348	555,000	551,000	38,939	2,394,891	201,497	3,874,163	63.2	2,260,185	1,807,800	1,259,389	1,334,085
Pittsburgh & Lake Erie	Oct.	235	1,109,325	45,927	1,189,849	102,031	426,889	23,923	406,534	53,203	1,013,945	85.2	175,904	75,820	196,092	244,576
	10 mos.	235	9,440,224	564,797	10,319,009	863,400	3,631,135	265,354	4,006,265	604,747	9,387,702	91.0	931,307	34,574	1,243,194	2,824,728
New York, Chicago & St. Louis	Oct.	1,691	2,494,261	54,554	2,644,187	253,332	399,514	103,102	901,775	118,069	1,772,175	67.0	872,012	718,446	459,589	178,520
	10 mos.	1,695	22,871,287	793,412	24,632,712	3,190,782	4,215,856	1,085,653	9,139,389	1,242,383	18,858,591	76.6	5,774,121	4,011,658	1,599,499	2,416,929
New York, New Haven & Hartford	Oct.	2,065	3,684,992	1,819,918	6,278,322	722,476	915,724	81,871	2,172,141	235,954	4,240,790	67.5	2,037,532	1,686,846	1,153,045	1,776,432
	10 mos.	2,078	34,630,153	20,883,098	63,266,851	8,008,554	9,592,533	846,223	22,506,253	2,459,357	44,697,292	70.6	18,569,559	14,414,567	9,524,281	15,640,024

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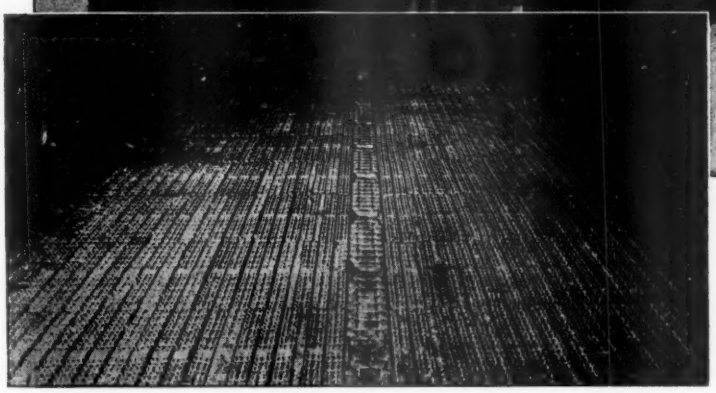
FIREBARS on the



TWENTIETH CENTURY

WAUGH FIREBAR
BETTER FIRES

FOR over two years Firebars have been used on Twentieth Century locomotives, effecting economy and reliability through better fires.

WAUGH EQUIPMENT COMPANY

NEW YORK CHICAGO CLEVELAND ST. LOUIS

Research Laboratory and General Office—DEPEW, N. Y.

CANADIAN WAUGH EQUIPMENT CO., LTD. MONTREAL, QUE.

Revenues and Expenses of Railways

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1931
New York Connecting	Oct.	20	$276,133	.....	$288,184	$8,534	$7,026	.....	$25,858	$849	$42,267	14.7	$245,917	$208,317	$163,873	$49,796
	10 mos.	20	1,940,395	.....	2,047,673	128,722	49,029	.....	281,144	10,265	469,160	22.9	1,578,513	1,208,913	816,569	512,835
New York, Ontario & Western	Oct.	568	763,239	$13,944	884,428	100,318	149,845	$13,989	343,711	23,830	634,575	71.7	249,853	194,843	146,817	116,895
	10 mos.	568	7,125,270	577,700	8,902,063	1,080,517	1,508,933	136,970	3,292,296	242,806	6,293,079	70.7	2,608,984	2,118,253	1,562,737	1,583,408
Norfolk & Western	Oct.	2,268	5,962,312	127,921	6,252,490	552,994	877,052	113,089	1,351,192	218,249	3,119,803	49.9	3,132,687	2,507,514	2,685,745	2,612,354
	10 mos.	2,268	47,536,000	1,419,324	50,816,481	5,467,289	9,378,794	1,118,397	13,163,243	2,343,044	31,605,060	62.2	19,211,421	13,253,177	14,150,356	19,687,888
Norfolk Southern	Oct.	932	365,313	6,309	386,552	69,787	63,660	21,673	146,829	20,436	322,385	83.4	64,167	20,430	10,735	51,263
	10 mos.	932	3,351,738	94,107	3,626,224	629,363	642,642	209,717	1,557,844	208,186	3,247,732	89.6	378,492	—58,782	—186,741	380,156
Northern Pacific	Oct.	6,735	4,116,733	207,009	4,701,352	376,184	1,009,825	149,626	1,555,306	244,198	3,379,148	71.9	1,322,204	697,381	978,390	1,227,402
	10 mos.	6,735	32,662,334	3,128,583	39,681,738	5,270,290	9,550,561	1,619,486	15,541,258	2,606,696	35,107,444	88.5	4,574,294	—1,594,921	953,974	4,944,226
Northwestern Pacific	Oct.	441	245,590	80,358	357,348	33,292	43,569	4,190	151,073	14,492	246,251	68.9	111,097	88,342	73,908	77,411
	10 mos.	441	1,539,979	939,460	2,777,062	428,606	528,872	50,822	1,441,286	151,777	2,599,556	93.6	177,506	—99,427	—224,221	—140,729
Oklahoma City-Ada-Atoka	Oct.	132	29,996	431	32,632	4,967	1,388	794	10,600	1,532	19,278	59.1	13,354	9,619	2,850	—3,302
	10 mos.	132	307,534	4,688	331,442	77,791	21,512	9,415	115,153	16,903	240,963	72.6	90,679	49,172	—24,986	367
Pennsylvania Railroad	Oct.	10,897	22,447,155	4,391,557	29,770,423	2,002,057	5,002,145	534,162	9,810,406	1,277,041	18,872,901	63.4	10,897,522	7,711,935	6,625,041	6,390,849
	10 mos.	10,897	198,499,303	51,145,136	280,391,235	22,111,575	54,760,989	6,129,538	103,755,443	14,010,338	204,001,737	72.8	76,389,498	50,714,003	41,168,606	44,992,408
Long Island	Oct.	399	669,894	1,465,238	2,263,726	164,426	282,978	16,405	875,545	53,467	1,392,908	61.5	870,818	644,878	457,515	499,643
	10 mos.	399	5,682,831	17,179,110	24,179,806	1,792,478	3,269,486	138,987	9,962,059	564,838	15,729,031	65.1	8,450,775	6,228,607	4,403,756	6,635,568
Peoria & Pekin Union	Oct.	17	12,226	.....	83,858	9,614	6,846	1,980	34,903	10,786	64,129	76.5	19,729	6,729	25,517	17,503
	10 mos.	17	96,680	Dr. 3	715,811	81,690	75,478	19,249	337,292	87,489	601,198	84.0	114,613	—37,352	189,138	175,909
Pere Marquette	Oct.	2,320	1,845,781	46,232	2,014,322	217,082	436,499	55,481	714,912	92,782	1,524,063	75.7	490,259	365,335	218,665	258,710
	10 mos.	2,312	15,941,943	757,967	17,837,141	2,428,755	3,994,675	619,863	7,180,537	998,893	15,291,495	85.7	2,545,646	1,196,234	147,325	1,135,265
Pittsburg & Shawmut	Oct.	102	81,094	625	82,779	8,769	22,361	1,325	19,510	5,104	57,069	68.9	25,710	24,404	22,616	42,681
	10 mos.	102	649,562	5,839	664,015	90,019	221,500	15,019	172,410	42,708	541,409	81.5	122,606	111,280	99,772	202,223
Pittsburgh & West Virginia	Oct.	138	225,771	21	237,421	23,910	49,537	12,902	41,130	13,254	147,806	62.3	89,615	94,868	129,936	62,045
	10 mos.	138	1,730,433	853	1,872,993	195,670	539,447	138,830	380,915	143,119	1,468,001	78.4	404,992	250,288	445,565	537,408
Pittsburg, Shawmut & Northern	Oct.	197	84,480	172	86,825	14,197	16,327	1,386	31,256	6,794	69,960	80.6	16,865	14,253	8,129	17,564
	10 mos.	197	750,067	2,465	776,311	175,894	186,391	15,514	301,789	66,663	746,251	96.1	30,060	4,741	—36,690	171,884
Reading	Oct.	1,461	4,441,373	256,297	4,976,844	299,973	781,917	72,483	1,623,591	182,280	2,979,802	59.9	1,997,042	1,741,131	1,711,486	1,856,673
	10 mos.	1,460	37,225,077	2,834,685	43,405,122	3,757,223	8,986,082	769,839	17,243,074	1,905,274	32,859,393	75.7	10,545,729	9,273,029	9,003,059	6,248,229
Atlantic City	Oct.	163	91,875	44,353	147,031	21,362	16,073	2,765	108,991	3,974	153,282	104.3	—6,251	—44,623	—49,630	—86,257
	10 mos.	163	698,534	908,046	1,725,514	220,843	178,649	32,359	1,234,242	39,424	1,706,942	98.9	18,572	—371,586	—438,399	—432,418
Richmond, Fredericksburg & Potomac	Oct.	117	203,764	84,864	379,225	39,274	86,507	8,751	172,766	28,169	342,510	90.3	36,715	20,081	5,624	—32,505
	10 mos.	117	2,988,957	1,299,663	5,347,500	491,524	1,099,790	90,641	2,145,670	306,810	4,239,547	79.3	1,107,953	806,579	392,069	1,012,842
Rutland	Oct.	413	217,450	34,095	336,685	57,569	66,955	11,351	137,381	13,359	286,598	85.1	50,087	27,919	35,047	35,462
	10 mos.	413	2,055,501	412,067	3,316,959	599,907	643,845	108,635	1,374,780	141,826	2,854,656	86.1	462,303	246,451	285,134	250,578
St. Louis-San Francisco	Oct.	5,266	3,426,459	205,942	3,948,177	478,363	734,749	98,513	1,236,917	187,956	2,747,292	69.58	1,200,885	867,019	864,364	1,018,456
	10 mos.	5,266	28,815,788	2,660,808	34,486,832	4,686,953	7,488,442	995,221	12,096,698	1,670,222	27,077,485	78.52	7,409,347	4,188,113	3,684,930	9,442,733
Ft. Worth & Rio Grande	Oct.	233	34,872	1,691	42,907	23,899	12,413	2,313	22,809	3,312	64,658	150.7	—21,751	—25,448	—30,840	—40,224
	10 mos.	233	320,477	15,373	395,913	188,084	123,164	27,231	240,136	38,811	617,053	155.9	—221,140	—266,480	—340,434	—299,973
St. Louis, San Francisco & Texas	Oct.	262	102,845	1,285	107,198	15,915	18,865	5,219	38,082	7,970	86,051	80.3	21,147	17,547	—11,129	—39,733
	10 mos.	262	836,220	6,038	879,545	194,669	186,420	51,387	399,367	74,049	905,790	103.0	—26,245	—70,539	—359,838	—237,605
St. Louis Southwestern Lines	Oct.	1,913	1,134,422	20,551	1,212,963	184,038	180,096	86,671	400,920	70,868	927,274	76.4	285,689	206,823	119,908	337,275
	10 mos.	1,913	9,780,919	197,157	10,626,686	1,542,726	1,760,236	813,664	3,814,402	851,227	8,853,940	83.3	1,772,746	913,358	—179,444	2,046,842
San Diego & Arizona	Oct.	155	19,362	2,446	23,218	11,446	8,896	1,752	12,702	4,241	38,910	167.6	—15,692	—18,981	—17,895	—16,990
	10 mos.	155	277,370	39,503	335,612	252,487	91,974	20,230	142,924	45,037	556,685	165.9	—221,073	—260,981	—257,561	28,465
Seaboard Air Line	Oct.	4,389	1,977,199	173,056	2,381,434	373,409	532,588	133,886	930,221	133,143	2,124,588	89.2	256,846	54,288	25,319	—57,600
	10 mos.	4,431	20,801,677	2,300,546	25,683,288	4,199,317	5,636,519	1,449,557	9,937,976	1,427,394	22,922,691	89.3	2,760,597	694,482	77,563	2,411,905
Southern Ry.	Oct.	6,711	5,569,621	552,092	6,712,280	814,927	1,385,952	146,439	2,350,260	258,694	4,991,832	74.4	1,720,448	1,247,612	1,112,217	926,212
	10 mos.	6,720	48,738,732	6,817,510	61,053,006	9,019,584	14,459,564	1,632,679	23,528,478	2,789,176	51,834,902	84.9	9,218,104	3,874,323	2,468,834	7,362,044
Alabama Great Southern	Oct.	315	313,833	35,333	383,731	48,298	94,799	10,439	115,289	14,362	285,49	74.4	98,240	64,892	53,601	34,060
	10 mos.	315	2,702,488	442,636	3,458,479	608,154	1,077,581	113,519	1,306,348	171,352	3,306,127	95.6	152,352	—227,164	—232,585	309,764
Cinn., New Orleans & Tex. Pac.	Oct.	337	745,089	45,701	848,031	89,227	195,265	24,493	233,939	36,695	583,122	68.8	264,909	213,300	217,647	86,885
	10 mos.	337	7,305,509	643,068	8,516,922	1,197,076	2,270,855	255,108	2,505,308	431,435	6,706,448	78.7	1,810,474	1,254,528	1,342,512	1,732,384
Georgia Southern & Florida	Oct.	397	113,924	14,183	144,368	23,454	$36,928	1,469	48,089	2,217	114,211	79.1	30,157	13,395	23,737	—20,897
	10 mos.	397	1,221,543	220,963	1,601,103	308,191	428,971	18,205	564,015	23,284	1,368,182	85.5	232,921	59,843	127,809	132,913

Continued on next left-hand page

Who says GOODYEARS are best?

SUCCESSFUL OPERATORS of motor bus lines say Goodyear All-Weather Tread Balloon Tires are the best bus tires in the world.

They say so because they *know*, so—know Goodyears give greater freedom from trouble, help them maintain schedules, and *cost less to use.*

MORE PASSENGERS ARE CARRIED ON GOODYEAR TIRES THAN ON ANY OTHER KIND.

Successful haulers in every line say the Goodyear All-Weather Tread Balloon Tire is the best truck tire in the world.

They, too, say so because they *know* so—know Goodyears deliver All-Weather Tread traction for any going, Supertwist Cord body stamina for long, trouble-free life, and DO *cost less to use.*

MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND.

When the men who know tires best affirm out of their own experience that *Goodyears are best*, why consider any *second-choice* tire? Your Goodyear Service Station Dealer has the right type and size for your operation.

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On Your New Trucks and Buses *Specify Goodyears*

GOODYEAR

MORE TONS ARE HAULED ON GOODYEAR TIRES THAN ON ANY OTHER KIND

Revenues and Expenses of Railways

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1932—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of—Way and structures	Maintenance of—Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1931
New Orleans & Northeastern	Oct.	204	$139,613	$15,021	$167,414	$26,651	$44,734	$5,981	$63,308	$8,802	$150,938	90.2	$16,476	—$15,528	—$27,378	—$18,753
	10 mos.	204	1,326,336	223,235	1,686,157	304,574	469,909	66,826	678,223	104,183	1,641,649	97.4	44,508	—266,931	—363,983	—318,064
Northern Alabama	Oct.	99	46,005	674	48,277	7,806	1,383	760	18,769	1,664	30,382	62.9	17,895	15,251	1,859	—3,481
	10 mos.	99	363,416	10,820	390,527	105,018	13,843	11,135	147,612	21,072	298,678	76.5	91,849	43,297	—88,644	—69,548
Southern Pacific	Oct.	9,101	8,004,826	1,211,582	10,165,130	1,005,226	1,536,366	263,902	3,557,255	542,890	7,074,954	69.6	3,090,176	2,293,601	1,775,020	2,368,427
	10 mos.	9,104	67,404,791	15,792,817	91,937,075	9,905,956	16,205,994	2,912,580	33,706,703	5,522,318	70,145,888	76.3	21,791,187	11,475,231	7,196,954	18,622,493
So. Pacific Steamship Lines	Oct.	....	352,073	17,509	385,397	13,216	97,666	16,666	256,783	22,646	406,977	105.6	—21,580	—22,272	—22,404	39,268
	10 mos.	....	3,331,798	247,444	3,756,883	149,698	1,101,313	177,784	2,818,973	268,553	4,516,321	120.2	—759,438	—771,249	—771,969	—735,343
Texas & New Orleans	Oct.	4,602	2,125,016	221,465	2,588,130	448,000	497,096	115,188	932,706	215,885	2,218,595	82.5	469,535	257,464	111,412	490,862
	10 mos.	4,615	20,273,147	2,714,995	26,202,512	4,288,558	5,331,162	1,263,711	9,835,330	2,249,051	23,093,641	88.1	3,108,871	479,587	—1,375,031	2,848,656
Spokane, Portland & Seattle	Oct.	552	388,806	20,585	450,456	54,660	59,204	10,048	155,718	22,178	302,778	67.2	147,678	73,424	47,811	53,576
	10 mos.	554	3,431,263	370,568	4,220,024	527,925	616,469	106,950	1,512,097	216,816	2,988,236	70.8	1,231,788	468,645	336,625	856,646
Tennessee Central	Oct.	295	172,217	3,849	183,621	24,003	25,779	6,657	57,987	11,044	125,464	68.3	58,157	53,923	38,796	38,492
	10 mos.	295	1,398,241	45,840	1,526,263	248,484	223,742	65,068	571,226	103,252	1,210,662	79.3	315,601	272,694	148,754	210,794
Terminal R. R. Assn. of St. Louis	Oct.	55	.....	.....	521,558	64,225	28,860	3,571	230,903	16,937	347,076	66.5	174,482	90,067	161,708	200,771
	10 mos.	55	.....	.....	4,792,725	620,035	316,279	38,757	2,349,345	186,402	3,536,469	73.8	1,256,256	391,070	1,081,740	1,593,204
Texas & Pacific	Oct.	1,950	1,547,102	161,648	1,930,682	168,068	320,627	67,941	575,483	106,549	1,255,953	65.1	674,729	588,685	511,807	529,790
	10 mos.	1,950	13,635,090	1,928,854	17,643,247	1,742,073	3,169,859	687,410	5,636,165	1,084,458	12,487,542	70.8	5,155,705	4,050,691	2,818,402	4,955,192
Texas Mexican	Oct.	162	36,700	519	42,326	8,887	10,890	2,773	23,983	6,537	52,516	124.1	—10,190	—15,360	—17,799	—20,395
	10 mos.	162	493,983	8,156	559,734	98,835	112,914	30,808	223,611	67,034	531,890	95.0	27,844	—24,302	—55,008	—115,330
Toledo, Peoria & Western	Oct.	239	174,171	23	176,303	42,083	15,828	12,963	39,074	10,697	120,645	68.4	55,658	48,639	32,296	16,940
	10 mos.	239	1,239,175	388	1,258,586	298,412	122,611	126,152	393,038	96,525	1,036,738	82.4	221,848	187,958	87,530	150,021
Toledo Terminal	Oct.	28	.....	.....	66,427	1,876	10,356	460	27,394	4,833	44,919	67.6	21,508	11,211	26,595	27,110
	10 mos.	28	.....	.....	621,511	55,861	114,257	4,961	286,103	48,247	509,395	82.0	112,116	78	140,436	271,601
Union R. R. of Penna	Oct.	45	.....	.....	155,399	49,344	94,286	121	78,669	15,619	238,039	153.2	—82,640	—88,256	—67,852	35,947
	10 mos.	45	.....	.....	1,650,825	483,058	937,486	1,456	940,615	140,022	2,502,637	151.6	—851,812	—919,657	—684,306	494,195
Union Pacific	Oct.	3,768	6,659,189	408,624	7,563,696	390,002	1,133,342	105,628	1,982,062	268,312	3,951,600	52.2	3,612,096	3,533,339	2,898,156	3,594,566
	10 mos.	3,768	45,570,334	5,279,429	56,227,147	4,424,578	10,527,216	1,275,162	17,144,084	2,920,155	37,089,026	66.0	19,138,121	14,975,230	12,188,581	15,072,961
Oregon Short Line	Oct.	2,506	2,094,823	82,184	2,299,447	167,582	239,848	34,605	653,547	85,458	1,198,286	52.1	1,101,161	869,710	707,394	796,851
	10 mos.	2,506	14,413,012	1,182,393	16,925,698	1,924,891	2,306,699	405,384	5,681,128	1,022,220	11,601,185	68.5	5,324,513	2,826,349	1,952,654	2,561,045
Oregon-Wash. R. R. & Nav. Co.	Oct.	2,338	957,776	71,677	1,154,052	139,272	159,060	47,990	510,561	92,768	955,274	82.8	198,778	54,950	—78,249	176,021
	10 mos.	2,338	8,839,164	987,517	11,181,273	1,585,598	1,655,474	560,248	4,938,505	958,260	9,776,848	87.4	1,404,425	—114,308	—1,208,977	—180,408
Los Angeles Salt Lake	Oct.	1,249	1,196,743	117,173	1,406,156	119,041	180,080	45,223	427,825	58,692	859,907	61.2	546,249	400,486	251,607	415,147
	10 mos.	1,249	10,289,564	1,623,995	12,982,070	1,243,088	1,819,558	515,881	4,159,796	661,018	8,733,041	67.3	4,249,029	2,771,114	1,468,121	1,131,076
St. Joseph & Grand Island	Oct.	258	255,442	2,311	267,247	22,527	25,763	2,516	78,678	12,809	142,293	53.2	124,954	116,801	79,727	86,331
	10 mos.	258	1,811,476	29,373	1,934,234	239,708	239,185	25,044	658,468	141,451	1,303,856	67.4	630,378	514,809	294,353	315,119
Utah	Oct.	111	128,372	.....	128,559	16,575	23,685	415	22,860	4,554	66,947	52.1	61,612	47,454	33,906	31,696
	10 mos.	111	851,627	.....	854,459	123,773	232,749	3,811	194,103	47,309	600,603	70.3	253,856	181,046	54,068	71,559
Virginian	Oct.	608	1,106,092	3,714	1,159,936	110,708	198,721	16,429	214,447	38,909	577,609	49.8	582,327	442,327	510,021	725,313
	10 mos.	608	9,969,482	63,089	10,531,011	1,077,689	2,032,058	161,647	2,117,282	306,015	5,678,375	53.9	4,852,636	3,477,564	4,093,287	5,365,190
Wabash	Oct.	2,523	3,030,289	179,749	3,439,555	321,425	493,697	139,910	1,351,978	130,959	2,454,228	71.4	985,327	773,388	446,461	—310,980
	10 mos.	2,523	27,264,466	2,126,014	31,695,127	4,313,301	5,212,475	1,547,772	13,462,690	1,574,359	26,248,491	82.8	5,446,636	3,342,198	—139,440	704,978
Ann Arbor	Oct.	293	292,686	4,137	305,375	24,724	52,403	11,795	115,923	10,092	214,987	70.4	90,388	76,796	57,829	—9,824
	10 mos.	293	2,521,220	35,454	2,655,434	347,575	524,824	131,114	1,155,975	114,080	2,273,984	85.6	381,450	209,382	26,986	30,159
Western Maryland	Oct.	891	1,046,962	5,436	1,094,329	122,420	164,701	31,555	266,727	34,058	622,166	56.9	472,163	432,163	443,268	429,356
	10 mos.	891	9,406,533	78,836	10,022,765	1,187,457	1,759,786	374,457	2,632,855	382,472	6,285,475	62.7	3,737,290	3,087,290	3,018,780	3,638,816
Western Pacific	Oct.	1,163	1,383,648	18,861	1,516,896	148,666	131,660	56,130	427,141	35,981	870,492	57.4	646,404	567,039	452,793	320,680
	10 mos.	1,107	8,252,687	353,942	9,273,421	1,064,368	1,612,015	589,767	3,680,525	375,586	7,641,618	82.4	1,631,803	756,313	572,146	227,170
Wheeling & Lake Erie	Oct.	511	844,498	2,014	897,979	64,479	187,729	27,891	241,953	25,252	547,294	60.9	350,685	240,536	227,582	109,608
	10 mos.	511	6,602,517	31,251	7,020,242	759,450	1,810,777	295,467	2,269,508	281,331	5,416,391	77.2	1,603,851	757,792	543,631	1,148,415
Wichita Falls & Southern	Oct.	203	56,462	38	58,476	10,003	7,057	1,757	14,413	2,639	35,869	61.34	22,607	18,435	14,837	3,695
	10 mos.	203	468,715	485	488,404	99,489	74,684	18,218	132,115	32,265	356,771	73.05	131,633	89,919	55,028	56,182